



MIT SLOAN SCHOOL OF MANAGEMENT

**15.567 THE ECONOMICS OF INFORMATION  
STRATEGY, STRUCTURE AND PRICING**

FALL 2016

**SYLLABUS AS OF SEPTEMBER 12, 2016: PLEASE BE ALERT TO LATER REVISIONS**

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**SCHEDULE OF SESSIONS**

September			October		
Thursday 9/8	The Economics of Information		Friday 9/30	<i>Optional session: Analytics of Marketplaces by Andrey Fradkin (1:00pm, E62-650)</i>	
Tuesday 9/13	Differential Pricing, Signaling and Screening	Jonathan Hall <i>Due: 1 pager</i>	Tuesday 10/4	Superstars and the Long Tail	<i>Due: 1 pager</i>
Thursday 9/15	Bundling and Aggregation	<i>Due: 1 pager</i>	Thursday 10/6	Targeted Advertising: Google	Hal Varian <i>Due: 1 pager</i>
Friday 9/16	<i>Optional session: Machine Learning by Daniel Rock (2:00pm, E62-650)</i>		Friday 10/7	<i>Optional session: Online experiments by Sagit Bar-Gill (1:00pm, E62-650)</i>	
Tuesday 9/20	Two Sided Networks and Platform Competition	Zoher Karu <i>Due: 1 pager</i>	Tuesday 10/11	(No Class, Monday Schedule)	<i>Due: Debate Slides</i>
Thursday 9/22	Pricing at Zero	<i>Due: 1 pager</i>	Thursday 10/13	Privacy	<i>Debate</i> Kate Crawford
Friday 9/23	<i>Optional session: Bitcoin and Encryption by Guillaume Saint-Jacques (1:00pm, E62-650)</i>		Friday 10/14	<i>Optional Panel: Machine Learning (at CODE)</i>	
Tuesday 9/27	Search and Competition	<i>Due: 1 pager</i>	Tuesday 10/18	Data-Driven Decisionmaking and Artificial Intelligence	Mustafa Suleyman
Thursday 9/29	Amazon	Jeff Wilke <i>Due: 1 pager</i>	Thursday 10/20	Mind and Machine in the Digital Age	<i>Due: Business Proposal</i>

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, E62-262

**Class Web Sites:** <http://stellar.mit.edu/S/course/15/fa16/15.567/> for readings, and assignments  
<http://www.economicsofinformation.com> for a class blog and discussion area

**Office Hours:** Tuesdays, 2:35-3:30pm 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 the implications for strategy, structure and pricing.

We will use lectures, cases, class discussion, guest speakers and team projects to examine a variety of topics including: the pricing of information goods, bundling and other forms of aggregation, platform economics, search and competition, targeted advertising, machine intelligence, 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 one excused absence before missing class seriously affects your grade. If you must miss a class, it is your responsibility to find out from your classmates what materials were covered and what items were distributed in class. Some classes may be video-recorded and may 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 mobile phones, tablets, 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 on Stellar. When you find interesting articles, technologies, business models, or websites that are relevant to any of the topics in our class, please email them to the TAs for posting on the blog. Each student should make at least one comment on the blog by October 1.
5. Please bring your name card to every class and, starting with the second 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.
6. For the assignments, please carefully document all source material. You should site any sources that your quote or paraphrase, or which you obtain facts or significant ideas. Plagiarism is serious, but it is easy to avoid as long as you give appropriate credit.

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. 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 6-unit course. Grades will be assigned on the following basis:

Class participation (including via blog)	35%
Individual Assignments (Seven of eight "one pagers")	30%
Team project (Debate Analysis)	15%
Final paper (Five page proposal)	20%

Although there are eight assigned "1 pagers", only your best seven will count toward your final grade. Detailed explanations of each assignment and the debate will be posted on the class website. Note that all assignments are due via Stellar at 7pm on the night *before* class.

### ***READINGS AND CLASS SCHEDULE***

Most of the class readings are available on the course Stellar site; all others are available for purchase on Study.net (link available via Stellar).

## ***BOOKS FOR THE COURSE***

### Optional:

Arun Sundararajan *The Sharing Economy The End of Employment and the Rise of Crowd-Based Capitalism*, MIT Press, 2016

Parker, G. G , Van Alstyne, M. W., & Choudary, S. P., (2016). *Platform Revolution: How Networked Markets Are Transforming the Economy—And How to Make Them Work for You*. WW Norton & Company

Roth, A. E. (2015). *Who Gets What—and Why: The New Economics of Matchmaking and Market Design*. Houghton Mifflin Harcourt.

Smith, M. D., & Telang, R. (2016). *Streaming, Sharing, Stealing: Big Data and the Future of Entertainment*. MIT Press

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

Brynjolfsson, Erik and McAfee, Andrew, *The Second Machine Age: Work, Progress and Prosperity in a Time of Brilliant Technologies*, Norton, 2014.

Dobbs, Richard, Maniyka, James and Woetzel Jonathan. *No Ordinary Disruption: The Four Global Forces Breaking All the Trends*, Public Affairs, 2015

Goldfarb, Avi, Greenstein, Shane and Tucker, Catherine, eds. *Economic Analysis of the Digital Economy*, National Bureau of Economic Research, 2015.

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 9/8	Economics of Information	<p>Review Syllabus.</p> <p>Marc Andreessen, “Why Software is Eating the World” <i>Wall Street Journal</i>, August 20, 2011.  <a href="http://search.proquest.com/docview/885059180/22A09E42DB949CFPQ/2?accountid=12492">http://search.proquest.com/docview/885059180/22A09E42DB949CFPQ/2?accountid=12492</a></p> <p>Breaking Smart “A New Soft Technology”, Summer, 2015.  <a href="http://breakingsmart.com/season-1/a-new-soft-technology/">http://breakingsmart.com/season-1/a-new-soft-technology/</a></p>	<p>Brynjolfsson, Erik and Adam Saunders (2013). <i>Wired for Innovation</i>. Ch. 1: “Technology, Innovation and Productivity in the Information Age.”</p> <p>Varian, Hal. Intelligent Technology, <i>Finance and Development</i>, September, 2016, vol 53. No. 3.  <a href="http://www.imf.org/external/pubs/ft/fandd/2016/09/varian.htm">http://www.imf.org/external/pubs/ft/fandd/2016/09/varian.htm</a></p> <p>Varian, Hal. "High-Technology Industries and Market Structure." prepared for the Federal Reserve Bank of St. Louis, Jackson Hole Symposium, August 2001.  <a href="http://www.sims.berkeley.edu/~hal/Papers/structure.pdf">http://www.sims.berkeley.edu/~hal/Papers/structure.pdf</a></p> <p>Tabarrok, Alex and Tyler Cowen, “The End of Asymmetric Information”  <a href="http://www.cato-unbound.org/2015/04/06/alex-tabarrok-tyler-cowen/end-asymmetric-information">http://www.cato-unbound.org/2015/04/06/alex-tabarrok-tyler-cowen/end-asymmetric-information</a></p> <p>Hirshleifer, J. (1971). “The Private and Social Value of Information and the Reward to Inventive Activity.” <i>American Economic Review</i>, 61(4), 561-574 (via JSTOR).</p> <p>Varian, Hal (2006). <i>Intermediate Microeconomics</i>. Ch. 35: “Information Technology.”</p> <p>Levin, J. D. (2011). <i>The economics of internet markets</i> (No. w16852). National Bureau of Economic Research.</p>

	September	Required	Optional
Tues 9/13	Differential Pricing, Signaling and Screening	<p>James Surowiecki, “In Praise of Efficient Price Gouging” <i>Technology Review</i>, August 19, 2014.  <a href="https://www.technologyreview.com/s/529961/in-praise-of-efficient-price-gouging/">https://www.technologyreview.com/s/529961/in-praise-of-efficient-price-gouging/</a></p> <p>Hall, Jonathan., Kendrick, C., &amp; Nosko, C. (2015). The Effects of Uber’s Surge Pricing: A Case Study. <i>The University of Chicago Booth School of Business</i>.  <a href="http://faculty.chicagobooth.edu/chris.nosko/research/effects_of_uber's_surge_pricing.pdf">http://faculty.chicagobooth.edu/chris.nosko/research/effects_of_uber's_surge_pricing.pdf</a></p> <p>Tim O’Reilly, Improving Uber’s surge pricing. O’Reilly Radar, September 23, 2015.  <a href="https://www.oreilly.com/ideas/improving-ubers-surge-pricing-more-80177">https://www.oreilly.com/ideas/improving-ubers-surge-pricing-more-80177</a></p> <p><b><u>Due Monday 7pm via Stellar:</u> 1-Pager</b></p>	<p>Tirole (1989) <i>The Theory of Industrial Organization</i>. Ch. 3: “Price Discrimination”: Read pages 133-152, but skip subsection 3.3.2 (p 148-149).  <a href="https://books.google.com/books?id=HIjsF0XONF8C&amp;printsec=frontcover&amp;dq=Tirole+(1989)+The+Theory+of+Industrial+Organization+Chapter+3&amp;hl=en&amp;sa=X&amp;ved=0ahUKewiUq6i_zfvOAhWQPB4KHJXJWCUQQ6AEIHjAA#v=onepage&amp;q&amp;f=false">https://books.google.com/books?id=HIjsF0XONF8C&amp;printsec=frontcover&amp;dq=Tirole+(1989)+The+Theory+of+Industrial+Organization+Chapter+3&amp;hl=en&amp;sa=X&amp;ved=0ahUKewiUq6i_zfvOAhWQPB4KHJXJWCUQQ6AEIHjAA#v=onepage&amp;q&amp;f=false</a></p> <p>Varian, H. (2000) “Buying, Sharing and Renting Information Goods” <i>The Journal of Industrial Economics</i>, Vol. XLVIII, Number 4, December 2000.  <a href="http://people.ischool.berkeley.edu/~hal/Papers/sharing.pdf">http://people.ischool.berkeley.edu/~hal/Papers/sharing.pdf</a></p> <p>Fisher III, W. W. (2007). When should we permit differential pricing of information. <i>UCLA L. Rev.</i>, 55, 1.  <a href="http://www.uclalawreview.org/pdf/55-1-1.pdf">http://www.uclalawreview.org/pdf/55-1-1.pdf</a></p> <p><a href="#">Varian, Hal (2006). “Asymmetric Information” (Ch. 37) , <i>Intermediate Microeconomics</i></a></p> <p>Chapter 3. “Price Discrimination” Tirole, Jean. <i>The theory of industrial organization</i>. MIT press, 1988.</p> <p>Joshua Gans, “One paywall model to rule them all” Digitopoly, July 21, 2014.  <a href="http://www.digitopoly.org/2014/07/21/one-paywall-model-to-rule-them-all/">http://www.digitopoly.org/2014/07/21/one-paywall-model-to-rule-them-all/</a></p>

	September	Required	Optional
Thur 9/15	Bundling and Aggregation	<p>Yannis Bakos and Erik Brynjolfsson, “Bundling Information Goods: Pricing, Profits, and Efficiency” <i>Management Science</i>, 45(12), 1613-1630. <a href="http://pubsonline.informs.org/doi/abs/10.1287/mnsc.45.12.1613">http://pubsonline.informs.org/doi/abs/10.1287/mnsc.45.12.1613</a></p> <p>Virginia Postrel, “Amazon is Going All Netflix on Book Publishers” <i>BloombergView</i>, July 17, 2014. <a href="http://www.bloombergview.com/articles/2014-07-17/amazon-is-going-all-netflix-on-book-publishers">http://www.bloombergview.com/articles/2014-07-17/amazon-is-going-all-netflix-on-book-publishers</a></p> <p>Chloe Albanesius, “If Sirius-XM Can Offer A La Carte Programs, Why Can’t Cable?” <i>PC Magazine</i>, July 30, 2008. <a href="http://www.pcmag.com/article2/0,1895,2326817,00.asp">http://www.pcmag.com/article2/0,1895,2326817,00.asp</a></p> <p><b><u>Due Wednesday 7pm via Stellar:</u></b> <i>1-pager</i></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. <a href="http://link.springer.com/chapter/10.1007/978-3-7091-6213-2_5#page-1">http://link.springer.com/chapter/10.1007/978-3-7091-6213-2_5#page-1</a></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. <a href="ftp://ftp.zew.de/pub/zew-docs/veranstaltungen/ICT2008/papers/Waldfogel.pdf">ftp://ftp.zew.de/pub/zew-docs/veranstaltungen/ICT2008/papers/Waldfogel.pdf</a></p> <p>Bakos and Brynjolfsson (2000) “Bundling and Competition on the Internet” <i>Marketing Science</i>, Volume 19, Number 1 (Winter), pp. 63-82. <a href="http://oz.stern.nyu.edu/cite05/readings/bakos4.pdf">http://oz.stern.nyu.edu/cite05/readings/bakos4.pdf</a></p> <p>Joshua Gans, “The Sullied Media Model”, Digitopoly, Feb, 2013. <a href="http://www.digitopoly.org/2013/02/26/the-sullied-media-model/">http://www.digitopoly.org/2013/02/26/the-sullied-media-model/</a></p> <p>Varian, Hal (2006). <i>Intermediate Microeconomics</i>. Ch.25: “Monopoly Behavior,” esp. “Bundling” (25.5).</p>

	September	Required	Optional
Tues 9/20	Two-Sided Networks and Platform Competition	<p>Case: Benjamin Edelman and Ian Larkin, “eBay Partner Network (A)” HBS: 910008. [Study.Net]</p> <p><b><u>Due Monday 7pm via Stellar:</u></b> 1-pager</p>	<p>Arthur, B. “Increasing Returns and the Two Worlds of Business.” <i>Harvard Business Review</i>. <a href="http://tuvalu.santafe.edu/~wbarthur/Papers/HBR.pdf">http://tuvalu.santafe.edu/~wbarthur/Papers/HBR.pdf</a></p> <p>Geoffrey Parker and Marshall W. Van Alstyne, "Two-Sided Network Effects: A Theory of Information Product Design," <i>Management Science</i>, 51(10), 1494-1504. <a href="http://pubsonline.informs.org/doi/abs/10.1287/mnsc.1050.0400">http://pubsonline.informs.org/doi/abs/10.1287/mnsc.1050.0400</a></p> <p>Annabelle Gawer and Michael Cusumano, “How Companies Become Platform Leaders,” <i>Sloan Management Review</i>, 2008. <a href="http://sloanreview.mit.edu/article/how-companies-become-platform-leaders/">http://sloanreview.mit.edu/article/how-companies-become-platform-leaders/</a></p> <p>Paul Willmott, “Digital Megatrend 3: Increased Economies of Scale” <i>The Digital Enterprise</i>, Feb 15, 2014. <a href="https://paulwillmott.wordpress.com/2014/02/15/digital-megatrend-3-increased-economies-of-scale/">https://paulwillmott.wordpress.com/2014/02/15/digital-megatrend-3-increased-economies-of-scale/</a></p> <p>Daily chart: eBay 20 years of Trading <a href="http://www.economist.com/blogs/graphicdetail/2015/09/daily-chart-1?fsrc=scn/tw_ec/eBay_20_years_of_trading">http://www.economist.com/blogs/graphicdetail/2015/09/daily-chart-1?fsrc=scn/tw_ec/eBay_20_years_of_trading</a></p> <p>Rochet and Tirole, “Two Sided Markets: A Progress Report,” <i>Rand Journal of Economics</i>, 37, (Autumn 2006), pp. 645-667.</p> <p>Why platforms beat products every time. (Jan 2015) Innovation@Work, MIT Sloan School <a href="http://executive.mit.edu/blogpost/why-platforms-beat-products-every-time">http://executive.mit.edu/blogpost/why-platforms-beat-products-every-time</a></p>



	September	Required	Optional
Thur 9/22	Pricing at Zero	<p>Chris Anderson, “Free! Why \$0.00 Is the Future of Business” <i>Wired</i>, February 25, 2008. <a href="http://www.wired.com/techbiz/it/magazine/16-03/ff_free">http://www.wired.com/techbiz/it/magazine/16-03/ff_free</a></p> <p>Brett Pulley and Andy Fixmer, Andy, “Diller Calls Free Web Content a ‘Myth, Joins Refrain” <i>Bloomberg News</i>, July 24, 2009. <a href="http://www.bloomberg.com/news/articles/2009-07-24/diller-calls-free-web-content-a-myth-joining-media-refrain">http://www.bloomberg.com/news/articles/2009-07-24/diller-calls-free-web-content-a-myth-joining-media-refrain</a></p> <p><b><i>Due Wednesday 7pm via Stellar: 1- Pager</i></b></p>	<p>Parker and Van Alstyne, “Strategies for Two-Sided Markets” <i>Harvard Business Review</i> (2006) <a href="http://ehis.ebscohost.com/ehost/detail?sid=07ca69a3-c99a-405d-94f0-1e4454cbc49b%40sessionmgr12&amp;vid=1&amp;hid=17&amp;bdata=JnNpdGU9ZWhvc3QtbGl2ZQ%3d%3d#db=bth&amp;AN=22316862">http://ehis.ebscohost.com/ehost/detail?sid=07ca69a3-c99a-405d-94f0-1e4454cbc49b%40sessionmgr12&amp;vid=1&amp;hid=17&amp;bdata=JnNpdGU9ZWhvc3QtbGl2ZQ%3d%3d#db=bth&amp;AN=22316862</a></p> <p>Shapiro and Varian, Ch. 5 and 6</p> <p>Malcolm Gladwell, “Priced to Sell: Is Free the Future?” <i>The New Yorker</i>, July 6, 2009. <a href="http://www.newyorker.com/arts/critics/books/2009/07/06/090706crbo_books_gladwell?currentPage=all">http://www.newyorker.com/arts/critics/books/2009/07/06/090706crbo_books_gladwell?currentPage=all</a></p> <p>Smith, M. D., &amp; Telang, R. (2016, MIT Press). <i>Streaming, Sharing, Stealing: Big Data and the Future of Entertainment</i>. Ch. 1: “House of Cards.”</p>
Tues 9/27	Search and Competition	<p>Michael D. Smith, Joseph Bailey, and Erik Brynjolfsson "Understanding Digital Markets: Review and Assessment” <i>Sloan Working Paper</i> 4211-01. <a href="http://papers.ssrn.com/sol3/papers.cfm?abstract_id=290326">http://papers.ssrn.com/sol3/papers.cfm?abstract_id=290326</a></p> <p>Erik Brynjolfsson, Yu Jeffrey Hu, and Mohammad S. Rahman, “Competing in the Age of Omnichannel Retailing” <i>Sloan Management Review</i>, 54(4), 23-29. <a href="http://sloanreview.mit.edu/article/competing-in-the-age-of-omnichannel-retailing/">http://sloanreview.mit.edu/article/competing-in-the-age-of-omnichannel-retailing/</a></p> <p>Roberto Baldwin, “Point your iPhone at something you like, and Amazon’s new app buys it” <i>Wired</i>, February 5, 2014 <a href="http://www.wired.com/2014/02/amazon-flow/">http://www.wired.com/2014/02/amazon-flow/</a></p> <p><b><i>Due Monday 7pm via Stellar: 1 pager</i></b></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 <a href="http://mansci.journal.informs.org/content/43/12/1676.short">http://mansci.journal.informs.org/content/43/12/1676.short</a></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 <a href="http://mansci.journal.informs.org/content/46/4/563.short">http://mansci.journal.informs.org/content/46/4/563.short</a></p> <p>Schoder and Talalayevsky, The Price Isn't Right, <i>Wall Street Journal</i>, Aug 23, 2010. <a href="http://online.wsj.com/article/SB10001424052748704107204574469331141323104.html">http://online.wsj.com/article/SB10001424052748704107204574469331141323104.html</a></p> <p>Michael Dinerstein, Liran Einav, Jonathan Levin, and Neel Sundaresan, “Consumer Price Search and Platform Design in Internet Commerce,” mimeo, 2013. <a href="http://www.jstor.org/stable/25046265">http://www.jstor.org/stable/25046265</a></p>

	Sept / Oct	Required	Optional
Thur 9/29	Amazon	<p>Case: John Deighton and Leora Kornfeld, “Amazon, Apple, Facebook, and Google” HBS: 513060. [Study.Net]</p> <p>Enright, Allison, Why Amazon is suddenly swimming in profit, <i>Internet Retailer</i>. August, 2016.  <a href="https://www.internetretailer.com/2016/08/08/why-amazon-suddenly-swimming-profit">https://www.internetretailer.com/2016/08/08/why-amazon-suddenly-swimming-profit</a></p> <p><b><i>Due Wednesday 7pm via Stellar:</i></b>  <i>1 pager</i></p>	<p>Marino, “Geeking Out at Amazon.” <i>Technology Review</i>, Nov/Dec 2007.  <a href="https://www.technologyreview.com/s/408867/geeking-out-at-amazon/">https://www.technologyreview.com/s/408867/geeking-out-at-amazon/</a></p> <p>Barrett, Brian “If Jet Wants to Beat Amazon, It Needs More than Low Prices” <i>Wired</i>, 7/22/15.  <a href="http://www.wired.com/2015/07/jet-amazon-prime/">http://www.wired.com/2015/07/jet-amazon-prime/</a></p>
Tues 10/4	Superstars and the Long Tail	<p>Chris Anderson, “The Long Tail,” <i>Wired</i>,  <a href="http://www.wired.com/wired/archive/12.10/tail_pr.html">http://www.wired.com/wired/archive/12.10/tail_pr.html</a></p> <p>Erik Brynjolfsson, Andrew McAfee, and Michael Spence, “New World Order: Labor, Capital and Ideas in the Power Law Economy” <i>Foreign Affairs</i>, July/August, 2014.  <a href="https://www.foreignaffairs.com/articles/united-states/2014-06-04/new-world-order">https://www.foreignaffairs.com/articles/united-states/2014-06-04/new-world-order</a></p> <p><b><i>Due Monday 7pm via Stellar:</i></b> <i>1-pager</i></p>	<p>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.  <a href="http://mansci.journal.informs.org/content/55/11/1755.short">http://mansci.journal.informs.org/content/55/11/1755.short</a></p> <p>Brynjolfsson, Erik, Hu, Yu (Jeffrey), and Smith, Michael D. (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.  <a href="http://ebusiness.mit.edu/research/papers/176_erikb_onlinebooksellers2.pdf">http://ebusiness.mit.edu/research/papers/176_erikb_onlinebooksellers2.pdf</a></p> <p>Fleder, Daniel M. and Hosanagar, Kartik, Blockbuster Culture's Next Rise or Fall: The Impact of Recommender Systems on Sales Diversity (September 1, 2007). <i>Management Science</i>, Vol. 55, No. 5, pp. 697-712, May 2009.  <a href="http://papers.ssrn.com/sol3/papers.cfm?abstract_id=955984">http://papers.ssrn.com/sol3/papers.cfm?abstract_id=955984</a></p> <p>Power-curve Society: The Future of Innovation, Opportunity and Social Equity in the Emerging Networked Economy, Aspen Institute, 2012–  <a href="http://www.aspeninstitute.org/sites/default/files/content/upload/Power-Curve-Society.pdf">http://www.aspeninstitute.org/sites/default/files/content/upload/Power-Curve-Society.pdf</a></p>

	October	Required	Optional
Thur 10/6	Targeted Advertising: Google	<p>Case: Benjamin Edelman and Thomas R. Eisenmann, "Google Inc." HBS: 910036. [Study.Net]</p> <p>Varian "The Economics of Internet Search"  <a href="http://people.ischool.berkeley.edu/~hal/Papers/2007/costa-lecture.pdf">http://people.ischool.berkeley.edu/~hal/Papers/2007/costa-lecture.pdf</a></p> <p>Review your own accounts at:  <a href="https://myaccount.google.com/privacy">https://myaccount.google.com/privacy</a>  <a href="https://www.facebook.com/ads/preferences">https://www.facebook.com/ads/preferences</a></p> <p><b><u>Due Wednesday 7pm via Stellar: 1-pager</u></b></p>	<p>Steven Levy, "Secret of Googlenomics", <i>Wired</i>, May 22, 2009.  <a href="http://www.wired.com/culture/culturereviews/magazine/17-06/nep_googlenomics?currentPage=all">http://www.wired.com/culture/culturereviews/magazine/17-06/nep_googlenomics?currentPage=all</a></p> <p>Steven Sinofsky. "Book Review: 'How Google Works' by Eric Schmidt and Jonathan Rosenberg" <i>Wall Street Journal</i>, October 3, 2014  <a href="http://search.proquest.com/docview/1570775908/29DB7AD09F4A4F3CPQ/6?accountid=12492">http://search.proquest.com/docview/1570775908/29DB7AD09F4A4F3CPQ/6?accountid=12492</a></p> <p>Finley, Klint "Thanks to Google, TV Ads Are About To Start Watching You." <i>Wired</i>, 3/24/15  <a href="http://www.wired.com/2015/03/google-fiber-ads/">http://www.wired.com/2015/03/google-fiber-ads/</a></p> <p>Sections 2.2–2.4, 7.3. Tirole, Jean. <i>The theory of industrial organization</i>. MIT press, 1988.</p> <p>Lewis, R. A., &amp; Reiley, D. H. (2014). Online ads and offline sales: measuring the effect of retail advertising via a controlled experiment on Yahoo!. <i>Quantitative Marketing and Economics</i>, 12(3), 235-266.</p>
Tues 10/11	(No Class)		

	October	Required	Optional
Thur 10/13	Privacy	<p><i>No required readings: Each team will develop their own list</i></p> <p><b><u>Due Wednesday 7pm via Stellar:</u></b> <i>Debate Slides</i></p>	<p>George Loewenstein, "What is Privacy Worth? <i>The Journal of Legal Studies</i> Vol. 42, No. 2 (June 2013), pp. 249-274 <a href="http://www.jstor.org/stable/10.1086/671754">http://www.jstor.org/stable/10.1086/671754</a></p> <p>The Great Privacy Debate, CNN Opinion Roundup: <a href="http://www.cnn.com/2013/06/06/opinion/roundup-privacy-opinion/">http://www.cnn.com/2013/06/06/opinion/roundup-privacy-opinion/</a></p> <p>Economist Debates: Online Privacy: "This house believes that governments must do far more to protect online privacy" <i>The Economist</i>, <a href="http://www.economist.com/debate/days/view/571">http://www.economist.com/debate/days/view/571</a></p> <p>Dwork, C., Hardt, M., Pitassi, T., Reingold, O., &amp; Zemel, R. (2012, January). Fairness through awareness. In <i>Proceedings of the 3rd Innovations in Theoretical Computer Science Conference</i> (pp. 214-226). ACM. <a href="https://www.cs.toronto.edu/~toni/Papers/awareness.pdf">https://www.cs.toronto.edu/~toni/Papers/awareness.pdf</a></p>
Tues 10/18	Data-Driven Decision-making and AI	<p>McAfee, Andrew and Brynjolfsson, Erik (2012) "Big Data: The Management Revolution." <i>Harvard Business Review</i>, 90(10), 60-68.</p> <p>Julian Harris, Google and UCLH to develop AI to improve cancer therapies, PHG, 2016. <a href="http://www.phgfoundation.org/news/17396/">http://www.phgfoundation.org/news/17396/</a></p> <p>Sam Shead, Google DeepMind: What is it, how does it work and should you be scared? <i>Techworld</i>. 2016. <a href="http://www.techworld.com/personal-tech/google-deepmind-what-is-it-how-it-works-should-you-be-scared-3615354/">http://www.techworld.com/personal-tech/google-deepmind-what-is-it-how-it-works-should-you-be-scared-3615354/</a></p>	<p>Brynjolfsson, Erik and Kristina McElheran. 2016. "The Rapid Adoption of Data-Driven Decision-Making." <i>American Economic Review</i>, 106(5): 133-39. <a href="https://www.aeaweb.org/articles?id=10.1257/aer.p20161016">https://www.aeaweb.org/articles?id=10.1257/aer.p20161016</a></p> <p>Hayek, F.A (1945) "The Use of Knowledge in Society." <i>American Economic Review</i> 35(4), 519-530. <a href="http://www.aeaweb.org/aer/top20/35.4.519-530.pdf">http://www.aeaweb.org/aer/top20/35.4.519-530.pdf</a></p> <p>How to Machine Learn <a href="https://docs.google.com/document/d/1YN6BVdReNAYc8B0fjQ84yzDflqmeEPj7S0Xc-9_26R0/preview?sle=true">https://docs.google.com/document/d/1YN6BVdReNAYc8B0fjQ84yzDflqmeEPj7S0Xc-9_26R0/preview?sle=true</a></p> <p>Russell, S. J., Norvig, P., Canny, J. F., Malik, J. M., &amp; Edwards, D. D. (2003, Prentice Hall). <i>Artificial intelligence: a modern approach</i>. Ch. 21: "Reinforcement learning"</p>

	October	Required	Optional
Thur 10/20	Mind and Machine in the Digital Age	<p>Pratt, Gill “Is a Cambrian Explosion Coming for Robotics?” <i>Journal of Economic Perspectives</i>, Summer 2015.  <a href="http://pubs.aeaweb.org/doi/pdfplus/10.1257/jep.29.3.51">http://pubs.aeaweb.org/doi/pdfplus/10.1257/jep.29.3.51</a></p> <p><b><i>Due Thursday 1pm via Stellar: Business Proposal</i></b></p>	<p>Tom Simonite, “Teaching Machines to Understand Us” <i>Technology Review</i>, August 6, 2015.  <a href="http://www.technologyreview.com/featurestory/540001/teaching-machines-to-understand-us/">http://www.technologyreview.com/featurestory/540001/teaching-machines-to-understand-us/</a></p> <p>Eric Schmidt. “Intelligent Machines: Making AI work in the Real World” <i>BBC News</i>, September 12, 2015.  <a href="http://www.bbc.com/news/technology-34143171">http://www.bbc.com/news/technology-34143171</a></p> <p>Kelly, Kevin “You Are Not Late”, Medium.com, July 27, 2014.  <a href="https://medium.com/message/you-are-not-late-b3d76f963142">https://medium.com/message/you-are-not-late-b3d76f963142</a></p>