



## MGT 3052 Course Outline

Marketing (*Spring 2019*)

Course Meets: Tuesdays 9AM-12PM, Rotman School of Management, Room 570

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**Objectives:** The purpose of this course is to introduce students to the key questions and most common methods used in quantitative marketing. The practice of finance has transformed over the past several decades to be a primarily quantitative field, rooted in ideas from economics. I believe the same process is now happening in marketing. Marketing practice is increasingly quantitative. Many of the most exciting marketing companies in the world apply marketing principles in highly technical ways, including Google, Facebook, and Amazon. This transformation of practice was preceded by the rise of the field of quantitative marketing.

A key theme is that rigor is a necessary condition for relevance. In other words, while there are rigorous papers that are not relevant, a research paper cannot be relevant if it is not rigorous. Without careful attention to detail and appropriate use of techniques, research should not be trusted to influence marketing practice or marketing policy.

In each class, we will work through research papers that build rigorous quantitative models of important marketing phenomena. Many of these papers take a social science perspective, with an emphasis on understanding the decisions of managers and consumers. Others take more of an engineering perspective, focusing on designing marketing tools.

**Preparation and Prerequisites:** The course is meant to be accessible to all marketing PhD students, regardless of the stream though aspects of the course will be technical and use advanced economics and econometrics. It will complement the rest of the first year marketing sequence, building on ideas from the consumer behavior course in the fall and from basic microeconomics and statistics. For those in the quantitative track, you will be expected to have a deep understanding the economics and econometrics material from the fall courses.

**Class Structure:** In class, we will engage in a detailed discussion of the assigned papers. We will discuss research questions, techniques, and the links between the research papers. At the end of each class, I will provide a brief introduction to the topic of the next class, in a format similar to how I teach MBAs. This will frame the discussion on the relevant quantitative papers in the next class. Class will involve a mix of PowerPoint slides, whiteboard derivations, and class discussion.

## **Assignments & Grading**

### ***Problem sets: 30%***

There will be 6 problem sets worth 5% each. Problems sets will be handed out during class the week before they are due. Each problem set will have three parts: (i) Identify the research question and core result in a paper, (ii) relate the research question to a traditional marketing concept, (iii) formally derive and interpret the key results of the relevant papers on a topic. The first two parts will anticipate future classes, while the third part will be based on material we have already covered.

### ***Participation: 10%***

You are expected to attend class, having completed the required readings. Participation grades will be determined by (1) attendance, (2) demonstration of having done the readings through class discussion, and (3) depth of understanding of the readings and ability to make connections between readings and class discussion.

### ***Final exam: 60%***

Questions will look like problem set questions, open book but time constrained.

## **Readings**

A number of papers have been assigned each week.

\*Means that everyone in the class (including those auditing) should have read the paper before coming to class.

In addition to those marked with a \*, each student should read at least one other paper carefully and be ready to discuss it in class. Books are marked with a +, and are meant for students who want to dig into the subject deeply, perhaps after the term is over.

Note that in deciding on the topics and papers, I have biased toward topics that Rotman professors know well, and papers that I know well (particularly my own!). This is to ensure expertise, and you should recognize that it comes at the expense of a truly broad and unbiased view of the field.

## **Questions to ask when reading a paper**

- 1) What is the research question?
- 2) What is the main result?
- 3) What results (if any) help explain this main result?
- 4) Does the interpretation follow the analysis?
- 5) How are the results communicated?

If empirical:

- a) What is the core identification challenge?
- b) What is the data structure?

	<b>Date</b>	<b>Topic</b>	<b>Deliverables</b>
<b>1</b>	<b>January 8</b>	Quantitative marketing	
<b>2</b>	<b>January 15</b>	Demand estimation	
<b>3</b>	<b>January 22</b>	Advertising	Problem set #1
<b>4</b>	<b>January 29</b>	Pricing, product lines, and CRM	
<b>5</b>	<b>February 5</b>	Distribution and sales force management	Problem set #2
<b>6</b>	<b>February 12</b>	Search, learning, and loyalty	
<b>7</b>	<b>February 19</b>	Branding	Problem set #3
<b>8</b>	<b>February 26</b>	Behavioral marketing	
<b>9</b>	<b>March 5</b>	Diffusion	Problem set #4
<b>10</b>	<b>March 12</b>	Social media and word-of-mouth	
<b>11</b>	<b>March 19</b>	Technological change, digitization, and AI	Problem set #5
<b>12</b>	<b>March 26</b>	Market design	
<b>13</b>	<b>April 2</b>	Marketing policy	Problem set #6
	<b>April 9</b>	<b>Final exam</b>	<b>3 hours. Open book.</b>

## **Week 1 (January 8): Quantitative Marketing**

### ***Perspectives***

Athey, Susan, and Michael Luca. Forthcoming. Economists (and Economics) in Tech Companies. *Journal of Economic Perspectives*.

Duflo, Esther. 2017. "Richard T. Ely Lecture: The Economist as Plumber." *American Economic Review*, 107 (5): 1-26.

Mela, Carl F., Jason M.T. Roos, and Yiting Deng. 2013. "A Key Word History of Marketing Science." *Marketing Science*, 31, 1 (January-February), 8-18.

Roth, A. E. 2002. "The Economist as Engineer: Game Theory, Experimentation, and Computation as Tools for Design Economics." *Econometrica*, 70: 1341-1378.

Rubinstein, A. 2006. "Dilemmas of an Economic Theorist." *Econometrica*, 74: 865-883.

### ***Methods***

Goldfarb, Avi, and Catherine Tucker. 2014. "Quasi-Experimental Methods in Marketing." Working Paper.

Reiss, Peter C. 2011. "Descriptive, Structural, and Experimental Empirical Methods in Marketing Research." *Marketing Science*, 30 (6), 950-964.

Moorthy, K.S. 1993. "Theoretical Modeling in Marketing." *Journal of Marketing*, 57 (April), 92- 106.

Shmueli, G. 2010. "To Explain or To Predict?" *Statistical Science*, vol. 25, issue 3, pp. 289-310, 2010.

+Angrist, Joshua D., and Jörn-Steffen Pischke. 2009. *Mostly Harmless Econometrics: An Empiricist's Companion*. Princeton University Press: Princeton NJ.

+Lilien, G. L., P. Kotler, and K. S. Moorthy. 1992. *Marketing Models*, Prentice Hall.

+Tirole, J. 1988. *The Theory of Industrial Organization*. MIT Press.

### ***Data***

Bronnenberg, Bart J., Mike Kruger, and Carl F. Mela. 2008. "The IRI Academic Dataset." *Marketing Science*, 27, 4 (July-August), 745-748.

Edelman, Benjamin. 2012. "Using Internet data for economic research." *Journal of Economic Perspectives*, 26: 189-206.

Einav, Liran, and Jonathan Levin. 2013. "The Data Revolution and Economic Analysis." NBER working paper #19035.

Varian, Hal R. 2014. "Big Data: New Tricks for Econometrics." *Journal of Economic Perspectives*, 28 (2): 3-28.

## **Week 2 (January 15): Demand Estimation**

### ***Conjoint***

\*Ding, Min. 2007. "An Incentive-Aligned Mechanism for Conjoint Analysis." *Journal of Marketing Research* 46, 214-223.

Green, P.E., Krieger, A.M., and Wind, Y. 2001. "Thirty Years of Conjoint Analysis: Reflections and Prospects." *Interfaces* 31: 3, Part 2, pp. S56-S73.

Toubia, Olivier, Duncan I. Simester, John R. Hauser, and Ely Dahan. 2003. "Fast Polyhedral Adaptive Conjoint Estimation." *Marketing Science*, 22(3):273-303.

### ***Scanner data***

\*Chintagunta, Pradeep K. Dipak C. Jain, and Naufel J. Vilcassim. 1991. "Investigating Heterogeneity in Brand Preferences in Logit Models for Panel Data." *Journal of Marketing Research*, 28 (4), 417- 428.

Bruno, Hernán A., Javier Cebollada, and Pradeep K. Chintagunta. 2018. "Targeting Mr. or Mrs. Smith: Modeling and Leveraging Intrahousehold Heterogeneity in Brand Choice Behavior." *Marketing Science*, 37(4):631-648.

Chintagunta, Pradeep K., and Harikesh S. Nair 2011. "Discrete-Choice Models of Consumer Demand in Marketing." *Marketing Science*, 30 (6), 977-996.

Dubé, J.-P., G. J. Hitsch, and P. E. Rossi. 2010. "State dependence and alternative explanations for consumer inertia." *RAND Journal of Economics*, 41(3), 417– 445.

Fader, P. S., and B. G. S. Hardie. 1996. "Modeling consumer choice among SKUs." *J. Marketing Res*, 33(4) 442–452.

Guadagni, Peter M., and John D. Little. 1983. "A Logit Model of Brand Choice Calibrated on Scanner Data." *Marketing Science*, 2 (3), 203-238.

Mehta, N., Rajiv, S., and K. Srinivasan. 2003. "Price Uncertainty and Consumer Search: A Structural Model of Consideration Set Formation." *Marketing Science*, 22 (1), pp. 58-84.

Rossi, Peter E., and Greg M. Allenby. 2003. "Bayesian Statistics and Marketing." *Marketing Science*, 22 (3), 304-328.

### ***Other***

\*Ghose, Anindya, Panagiotis Ipeirotis, and Beibei Li. 2012. "Designing Ranking Systems for Hotels on Travel Search Engines by Mining User-Generated and Crowdsourced Content." *Marketing Science*, 31(3), 493-520.

Berry, S., J. Levinsohn, and A. Pakes. 1995. "Automobile Prices in Market Equilibrium." *Econometrica*, 63 (4), 841-890.

Moe, Wendy W., and Peter S. Fader. 2004. "Dynamic Conversion Behavior at E-Commerce Sites." *Management Science*, 50(3):326-335.

### **Week 3 (January 22): Advertising**

#### **Theory**

\*Bagwell K. 2007. "The economic analysis of advertising." Armstrong M, Porter R, eds. *Handbook of Industrial Organization*, V. 3 (North-Holland, Amsterdam), 1701–1844. *Required 1701-1724 o/w optional.*

Berman, Ron. 2018. "Beyond the Last Touch: Attribution in Online Advertising." *Marketing Science*, 37(5), 771-792.

Iyer, Ganesh K., David A. Soberman and J. Miguel Villas-Boas. 2005. "The Targeting of Advertising." *Marketing Science*, Vol. 24, No. 3, 461-476.

#### **Empirics—Offline**

\*Shapiro, Ben. 2018. "Positive Spillovers and Free Riding in Advertising of Prescription Pharmaceuticals: The Case of Antidepressants." *Journal of Political Economy*, 126(1), pp 381-437.

Ackerberg, D. "Empirically Distinguishing Informative and Prestige Effects of Advertising." *RAND Journal of Economics*, Vol. 32, No. 2, Summer 2001. pp. 100-118.

Ching, Andrew T., and Masakazu Ishihara. 2012. "Measuring the Informative and Persuasive Roles of Detailing on Prescribing Decisions." *Management Science*, 58(7):1374-1387.

Chung, Kevin YC, Timothy P. Derdenger, and Kannan Srinivasan. 2013. "Economic Value of Celebrity Endorsements: Tiger Woods' Impact on Sales of Nike Golf Balls." *Marketing Science*, 32(2):271-293.

Hartmann, Wesley R., and Daniel Klapper. 2018. "Super Bowl Ads." *Marketing Science*, 37(1):78-96.

Lodish, Leonard M. et al. 1995. "How T.V. Advertising Works: A Meta-Analysis of 389 Real World Split Cable T.V. Advertising Experiments." *Journal of Marketing Research*, 32 (May), 125-139.

#### **Empirics—Online**

\*Goldfarb, Avi and Catherine Tucker. 2011. "Online Display Advertising: Targeting and Obtrusiveness." *Marketing Science*, 30(3), 389-404.

\*Johnson, Garrett, Randall Lewis, and Elmar Nubbemeyer. 2017. "Ghost Ads: Improving the Economics of Measuring Online Ad Effectiveness." *Journal of Marketing Research*, 54, No. 6, pp. 867-884.

\*Blake, Thomas, Chris Nosko, and Steven Tadelis. 2015. "Consumer Heterogeneity and Paid Search Effectiveness: A Large-Scaled Field Experiment." *Econometrica*, 83(1), 155- 174.

\*Simonov, Andrey, Chris Nosko, and Justin M. Rao. 2018. Competition and Crowd-Out for Brand Keywords in Sponsored Search. *Marketing Science*, 37(2):200-215.

Goldfarb, Avi. 2014. "What is different about online advertising?" *Review of Industrial Organization*, 44(2): 115-129.

Goldfarb, Avi, and Catherine Tucker. 2011. Search Engine Advertising: Channel Substitution when Pricing Ads to Context. *Management Science*, 57(3), 458-470.

Lambrecht, A., and Tucker, C. 2013. "When Does Retargeting Work? Information Specificity in Online Advertising." *Journal of Marketing Research*, 50(5), 561–576.

Lewis, R. A., and Rao, J. M. 2015. "The Unfavorable Economics of Measuring the Returns to Advertising." *The Quarterly Journal of Economics*, 130(4), 1941-1973.

Liaukonyte, Jura, Thales Teixeira, and Kenneth C. Wilbur. 2015. "Television Advertising and Online Shopping." *Marketing Science*, 34(3):311-330.

Urban, Glen L. Guilherme Liberali, Erin MacDonald, Robert Bordley, and John R. Hauser. 2014. "Morphing Banner Advertising" *Marketing Science*, 33 (January-February), 27-46.

## **Week 4 (January 29): Pricing, product lines, and CRM**

### ***Price and Demand***

\*Chevalier, J., A. Kashyap, and P. Rossi. 2003. "Why Don't Prices Rise During Periods of Peak Demand? Evidence From Scanner Data." *American Economic Review*, (June).

\*Lambrecht, Anja, and Kanishka Misra. 2017. "Fee or Free: When Should Firms Charge for Online Content?" *Management Science*, 63(4):1150-1165.

Haviv, Avery. 2018. "Consumer Search and Counter-Cyclic Pricing." Working Paper, University of Rochester.

Pattabhiramaiah, Adithya, S. Sriram, and Shrihari Sridhar. 2018. "Rising Prices Under Declining Preferences: The Case of the U.S. Print Newspaper Industry." *Marketing Science*, 37(1):97-122.

### ***Price Promotions***

Busse, M., D. Simester, and F. Zettelmeyer. 2010. "The Best Price You'll Ever Get: The 2005 Employee Discount Pricing Promotions in the U.S. Automobile Industry." *Marketing Science*, 29 (2), 268 -290.

Narasimhan, C. 1984. "A Price Discrimination Theory of Coupons." *Marketing Science*, 3 (Spring), 128-147.

### ***Product Choices***

\*Hermosilla, Manuel, Fernanda Gutiérrez-Navratil, and Juan Prieto-Rodríguez. 2018. "Can Emerging Markets Tilt Global Product Design? Impacts of Chinese Colorism on Hollywood Castings." *Marketing Science*, 37(3):356-381.

Draganska, DC Jain. 2005. "Product-line length as a competitive tool." *Journal of Economics & Management Strategy*, 14 (1), 1-28.

Moorthy, K. S. 1984. "Market Segmentation, Self-Selection, and Product Line Design." *Marketing Science*, 3, 288-307.

Moorthy, K. S. 1988. "Product and Price Competition in a Duopoly." *Marketing Science*, 7 (Spring), 141-168.

Orhun, Yesim. 2009. "Optimal product line design when consumers exhibit choice set-dependent preferences." *Marketing Science*.

### ***Customer Relationship Management***

\*Ascarza, Eva. 2018. "Retention futility: Targeting high-risk customers might be ineffective". *Journal of Marketing Research*, (Forthcoming).

Kamakura, Wagner, Carl Mela, et al. "Choice Models and Customer Relationship Management." *Marketing Letters*, 16(3/4), 279-291.

McCarthy, Daniel M., and Peter Fader. 2018. "Customer-Based Corporate Valuation for Publicly Traded Noncontractual Firms." *Journal of Marketing Research*, 55(5), 617-635.

Netzer, Oded, James M. Lattin, and V. Srinivasan. 2008. "A Hidden Markov Model of Customer Relationship Dynamics." *Marketing Science*, 27(2):185-204.

## **Week 5 (February 5): Distribution and sales force management**

### ***Retailing***

\*Ellickson, Paul B., and Sanjog Misra. 2008. "Supermarket Pricing Strategies." *Marketing Science*, 27(5):811-828.

\*Sudhir, K. 2001. "Structural Analysis of Manufacturer Pricing in the Presence of a Strategic Retailer." *Marketing Science*, 20(3), 244-264.

Ailawadi, Kusum L., Jie Zhang, Aradhna Krishna, and Michael W. Kruger. 2010. "When Wal-Mart Enters: How Incumbent Retailers React and How This Affects Their Sales Outcomes." *Journal of Marketing Research*, Vol. XLVII, 577-593.

Basker, Emek. 2007. "The Causes and Consequences of Wal-Mart's Growth." *Journal of Economic Perspectives*, 21(3), 177-198.

Dubé, Jean-Pierre, Günter J. Hitsch, and Peter E. Rossi. 2018. "Income and Wealth Effects on Private-Label Demand: Evidence from the Great Recession." *Marketing Science*, 37(1):22-53.

Lafontaine, Francine. 1992. "Agency Theory and Franchising: Some Empirical Results." *RAND Journal of Economics*, 23(2), 263-283.

Messinger, P., and C. Narasimhan. 1995. "Has Power Shifted in the Grocery Channel?" *Marketing Science*, 14, 189-223.

Moorthy, Sridhar. 2005. "A General Theory of Pass-Through in Channels with Category Management and Retail Competition." *Marketing Science*.

Vitorino, Maria Ana. 2012. "Empirical entry games with complementarities: An application to the shopping center industry." *Journal of Marketing Research*, 49(2), 175-191.

### ***Online/Offline***

\*Wang, Kitty, and Avi Goldfarb. 2017. "Can offline stores drive online sales?" *Journal of Marketing Research*, 54(5), 706-719

Avery, Jill, Thomas J. Steenburgh, John Deighton, and Mary Caravella. 2012. "Adding Bricks to Clicks: Predicting the Patterns of Cross-Channel Elasticities Over Time." *Journal of Marketing*, 76, 96-111.

Balasubramanian, S. 1998. "Mail versus Mall: A Strategic Analysis of Competition between Direct Marketers and Conventional Retailers." *Marketing Science*, 17, 181-195.

Danaher, Brett, Samita Dhanasobbon, Michael D. Smith, and Rahul Telang. 2010. "Converting Pirates Without Cannibalizing Purchasers: The Impact of Digital Distribution on Physical Sales and Internet Piracy." *Marketing Science*, 29(6), 1138-51.

Forman, Chris, Anindya Ghose, and Avi Goldfarb. 2009. "Competition between Local and Electronic Markets: How the benefit of buying online depends on where you live." *Management Science*, 54, 47-57.

### ***Sales force management***

\*Misra, Sanjog, and Harikesh Nair. 2011. "A Structural Model of Sales-Force Compensation Dynamics: Estimation and Field Implementation." *Quantitative Marketing and Economics*, 9(3), 211-225.

Chung, Doug, Thomas Steenburgh, and K. Sudhir. "Do bonuses enhance sales productivity? A dynamic structural analysis of bonus-based compensation plans." *Marketing Science*, 33(2), 165-187.

Kalra, Ajay, and Mengze Shi. 2001. "Designing Optimal Sales Contests: A Theoretical Perspective." *Marketing Science*, 20(2):170-193.



## **Week 6 (February 12): Search, learning, and loyalty**

### ***Search***

- \*Bronnenberg, Bart J., Jun B. Kim, and Carl F. Mela. 2016. "Zooming In on Choice: How Do Consumers Search for Cameras Online?" *Marketing Science*, 35(5):693-712.
- \*Honka, Elizabeth. 2014. "Quantifying Search and Switching Costs in the US Auto Insurance Industry." *RAND Journal of Economics*, 45(4), 847-884.
- Baye, M. R., Morgan, J., and Scholten, P. 2006. "Information, search, and price dispersion." *Handbook on economics and information systems*, 1. Read pages 323—343 only.
- Kuksov, D. 2004. "Buyer search costs and endogenous product design." *Marketing Science*, 23(4), pp.490-499.
- Seiler, Stephan, and Fabio Pinna. 2017. "Estimating Search Benefits from Path-Tracking Data: Measurement and Determinants." *Marketing Science*, 36(4):565-589.
- Stigler, G. J. 1961. "The economics of information." *The Journal of Political Economy*, 69(3), 213-225.
- Ursu, Raluca. 2018. "The Power of Rankings: Quantifying the Effect of Rankings on Online Consumer Search and Purchase Decisions." *Marketing Science*, 37(4), 530-552.

### ***Learning***

- \*Zhang, J. 2010. "The sound of silence: Observational learning in the US kidney market." *Marketing Science*, 29(2), pp.315-335.
- Erdem, T., Keane, M.P., and Sun, B. 2008. "A Dynamic Model of Brand Choice When Price and Advertising Signal Product Quality." *Marketing Science*, Vol. 27, No. 6, pp. 1111-1125.
- Osborne, Matthew. 2011. "Consumer Learning, switching costs, and heterogeneity: A structural examination." *Quantitative Marketing and Economics*, 9(1): 25-46.

### ***Loyalty***

- \*Hartmann, WR, and VB Viard. "Do frequency reward programs create switching costs? A dynamic structural analysis of demand in a reward program." *Quantitative Marketing and Economics*, 6 (2), 109-137.
- \*Lederman, Mara. 2007. Do enhancements to loyalty programs affect demand? The impact of international frequent flyer partnerships on domestic airline demand. *RAND Journal of Economics* 38(4), 1134-1158.
- Fudenberg, D., and M. Villas-Boas. 2006. "Behavior-Based Price Discrimination and Customer Recognition," in T. Hendershott (ed.), *Handbooks in Information Systems*, Vol. 1. Elsevier.
- Kim, BD., M Shi, and K Srinivasan. "Reward programs and tacit collusion." *Marketing Science*, 20 (2), 99-120.
- Klemperer, P. 1995. "Competition when Consumers have Switching Costs: An Overview with Applications to Industrial Organization, Macroeconomics, and International Trade." *Review of Economic Studies*.
- Lederman, Mara. 2008. "Are Frequent-Flyer Programs a Cause of the "Hub Premium"?" *Journal of Economics and Management Strategy*, 17(1), 35-66.
- Shin, J., and K. Sudhir. 2010. "A Customer Management Dilemma: When Is It Profitable to Reward Own Customers?" *Marketing Science*.

## **Week 7 (February 19): Branding**

- \*Bronnenberg, Bart, JP Dube, and Sridhar Moorthy. Forthcoming. "The Economics of Brands and Branding." *Handbook of the Economics of Marketing*, Eds, Jean-Pierre Dube and Peter Rossi.
- \*Borkovsky, Ron, Avi Goldfarb, Avery Haviv, and Sridhar Moorthy. 2017. "An Empirical Study of the Dynamics of Branding." *Marketing Science*, 36(4), 471-499.
- \*Qian, Yi. "Impacts of Entry by Counterfeiters." *Quarterly Journal of Economics*, November 2008, Vol. 123, No. 4: 1577–1609.
- Ailawadi, Kusum, Donald Lehmann, and Scott Neslin. 2003. "Revenue Premium as an Outcome Measure of Brand Equity." *Journal of Marketing*, 67 (October), 1-17.
- Ataman, Berk, Carl F. Mela, and Harald J. van Heerde. 2008. "Building Brands." *Marketing Science*, 27, 6 (November-December), 1036-1054.
- Bronnenberg, Bart J., Sanjay Dhar, and J-P Dube. 2009. "Brand History, Geography, and the Persistence of Brand Shares." *Journal of Political Economy*, 117 (1), 87-115.
- Bronnenberg, Bart, JP Dube, Matthew Gentzkow, and Jesse Shapiro. 2017. "Do pharmacists buy Bayer? Informed shoppers and the brand premium." *Quarterly Journal of Economics*, 130 (4), 1669-1726
- Erdem, Tülin. 1998. "An Empirical Model of Umbrella Branding." *Journal Marketing Research*, 35 (3), 339-351.
- Goldfarb, Avi, Qiang Lu, and Sridhar Moorthy. 2009. "Measuring Brand Value in an Equilibrium Framework." *Marketing Science*, 28(1), 69-86.
- Hollenbeck, Brett. 2018. "Online Reputation Mechanisms and the Decreasing Value of Chain Affiliation." *Journal of Marketing Research*, 55(5), 636-654.
- Keller, Kevin L. 1993. "Conceptualizing, Measuring, and Managing Customer Based Brand Equity." *Journal of Marketing*, 57 (January), 1-22.
- Moorthy, Sridhar. 2012. "Can Brand Extension Signal Product Quality?" *Marketing Science*, 31(5):756-770.
- Tadelis, Steven. "What's in a Name? Reputation as a Tradeable Asset." *The American Economic Review*, vol. 89, no. 3, 1999, pp. 548–563.
- Waldfogel, J., & Chen, L. 2006. "Does information undermine brand? Information intermediary use and preference for branded web retailers." *The Journal of Industrial Economics*, 54(4), 425-449.
- Wernerfelt, B. 1988. "Umbrella Branding as a Signal of New Product Quality: An Example of Signaling by Posting a Bond." *Rand Journal of Economics*, 19, 458-466.
- +Aaker, David. 1995. *Building Strong Brands*. Free Press.

## **Week 8 (February 26): Behavioral marketing**

\*DellaVigna, Stefano. 2018. "Structural Behavioral Economics." *Handbook of Behavioral Economics*, eds, Bernheim, DellaVigna, and Laibson.

\*Ho, T.-H., Lim, N., and Camerer, C. 2006. "Modeling the psychology of consumer and firm behavior with behavioral economics." *Journal of Marketing Research*, 43(3), 307–331.

### ***Consumers***

Anderson, ET, and DI Simester. 2003. "Effects of \$9 price endings on retail sales: Evidence from field experiments." *Quantitative Marketing and Economics*, 1 (1), 93-110.

Brown, Jennifer, Tanjim Hossain, and John Morgan. 2010. "Shrouded Attributes and Information Suppression: Evidence from the Field." *Quarterly Journal of Economics*, 859-876.

Gordon, B. R., and B. Sun. 2015. "A Dynamic Model of Rational Addiction: Evaluating Cigarette Taxes." *Marketing Science*, 34(3), 452-470.

Liu, Xiao, Alan Montgomery, and Kannan Srinivasan. Forthcoming. "Analyzing Bank Overdraft Fees with Big Data." *Marketing Science*.

Narayanan, Sridhar, and Puneet Manchanda. 2012. "An Empirical Analysis of Individual Level Casino Gambling Behavior." *Quantitative Marketing and Economics*, 10 (1), 27-62.

Seim, Katja, Maria Ana Vitorino, and David Muir. 2017. "Drip Pricing When Consumers have Limited Foresight: Evidence from Driving School Fees." Working paper, INSEAD.

Zhong, Zachary. 2018. "Chasing Diamonds and Crowns: Consumer Limited Attention and Seller Response." Working paper.

### ***Firms***

DellaVigna, Stefano, and Matthew Gentzkow. 2017. "Uniform Pricing in US Retail Chains." NBER Working Paper #23996.

Goldfarb, Avi, and Mo Xiao. 2011. "Who thinks about the competition? Managerial ability and strategic entry in US local telephone markets." *American Economic Review*, 101(7): 3130-3161.

Goldfarb, Avi, and Botao Yang. 2009. "Are All Managers Created Equal?" *Journal of Marketing Research*, 46(5), 612-622.

Grubb, Michael, and Matthew Osborne. 2015. "Cellular Service Demand: Biased Beliefs, Learning, and Bill Shock." *American Economic Review*, 105(1), 234-271.

Hortacsu, Ali, Fernando Luco, Steven Puller, and Dongni Zhu. 2017. "Does Strategic Ability Affect Efficiency? Evidence from Electricity Markets." NBER Working Paper 23526.

## Week 9 (March 5): Diffusion

- \*Bass, F.M. 1969. "A new product growth model for consumer durables." *Management Science*, 15: 215-227.
- \*Griliches, Z. 1957. "Hybrid corn: an exploration in the economics of technological change." *Econometrica*, 25: 501-522.
- \*Bollinger, Bryan, and Kenneth Gillingham. 2012. "Peer Effects in the Diffusion of Solar Photovoltaic Panels." *Marketing Science*, 31(6): 900-912.
- \*Sudhir, K., and Debabrata Talukdar. 2015. "The "Peter Pan Syndrome" in Emerging Markets: The Productivity-Transparency Trade-off in IT Adoption." *Marketing Science*, 34(4), 500-521.
- Anderson, Eric, Song Lin, Duncan Simester, and Catherine Tucker. 2015. "Harbingers of Failure." *Journal of Marketing Research*, October 2015, Vol. 52, No. 5, pp. 580-592.
- Catalini, Christian, and Catherine Tucker. 2017. "When early adopters don't adopt." *Science*, Vol. 357, Issue 6347, 135-136.
- Conley, TG, and Udry CR. 2010. "Learning about a new technology: Pineapple in Ghana." *American Economic Review*, 100(1): 35-69.
- Hitsch, Günter J. 2016. "An Empirical Model of Optimal Dynamic Product Launch and Exit Under Demand Uncertainty." *Marketing Science*, Volume 25, P. 25-50.
- Horsky, D. 1990. "A Diffusion Model Incorporating Product Benefits, Price, Income and Information." *Marketing Science*, 9, 342-365.
- Mahajan, V., Muller, E. and Bass, F.M. 1990. "New Product Diffusion Models in Marketing: A Review and Directions for Research." *The Journal of Marketing*, Vol. 54, No. 1, pp. 1-26.
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