

# ERIC M. SCHWARTZ

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## Academic employment

Assistant Professor of Marketing, Ross School of Business, University of Michigan, July 2013-present

## Education

Ph.D. Marketing, Wharton School, University of Pennsylvania, May 2013  
B.A. Mathematics and Spanish, College of Arts and Sciences, University of Pennsylvania, May 2008

## Research interests

Substantive: adaptive marketing experiments, digital advertising, dynamic pricing, customer acquisition and lifetime value, media consumption, public policy  
Methodological: statistical machine learning, Bayesian data analysis and econometrics, adaptive sampling, multi-armed bandit problems, reinforcement learning, and dynamic programming

## Published papers

**Schwartz, Eric M.**, Eric T. Bradlow, Peter S. Fader (2017), “Customer Acquisition via Display Advertising Using Multi-Armed Bandit Experiments,” *Marketing Science*, 36 (4), 500-522. <https://goo.gl/Ly7Bdv>

**Schwartz, Eric M.**, Eric T. Bradlow, Peter S. Fader (2014), “Model Selection Using Database Characteristics: Developing a Classification Tree for Longitudinal Incidence Data,” *Marketing Science*, 33 (2), 188-205. <https://goo.gl/Wsk2yL>

Berger, Jonah, and **Eric M. Schwartz** (2011), “What Drives Immediate and Ongoing Word of Mouth?” *Journal of Marketing Research*, 48 (5), 869-880. <https://goo.gl/WBt7te>

## Working papers

Under review or targeted at peer-reviewed publications

Misra, Kanishka, **Eric M. Schwartz**, Jacob Abernethy\* (2018), “Dynamic Online Pricing with Limited Information Using Multi-Armed Bandit Experiments,” Available on SSRN, <https://goo.gl/mxJ8Rh>. *Conditionally Accepted at Marketing Science*  
\*First two authors listed alphabetically.

Aribarg, Anocha, **Eric M. Schwartz** (2017), “Consumer Responses to Native Advertising,” Available on SSRN, <https://goo.gl/Fx7nhg>.  
- Status: Invited for Revision at *Journal of Marketing Research*. \*Listed alphabetically.

**Schwartz, Eric M.**, Alex Chojnacki, Jared Webb, Arya Farahi, Jacob Abernethy (2017) “On the Search for Lead Pipes in Flint: An Algorithmic Approach to Infrastructure Remediation Facing Uncertainty” <https://goo.gl/eDuJlr>.  
- Status: To submit to *Proceedings of the National Academy of Science*

**Schwartz, Eric M.**, Kenneth Fairchild, Bryan Orme, Alexander Zaitzeff (2016), “Active Learning and Best-Arm Identification: Bandit Adaptive MaxDiff for Large-Scale Idea Screening”

- Status: Manuscript available upon request. Preparing to submit to *Journal of Marketing Research*

**Schwartz, Eric M.**, Liangbin Katie Yang, Peter S. Fader (2015) “Sequential Allocation for Customer Acquisition” <https://goo.gl/Z6xOC7>.

- Status: Manuscript completed.

## Work in progress

Data analysis and/or writing has begun

“Binge Viewing: Ad-Supported Streaming Video” with Puneet Manchanda and Prashant Rajaram

“Online Advertising and Lead Generation: Recruiting for the Detroit Police Department,” with Michael Braun and Hye Jin Yoon (Southern Methodist University)

“BanditSGD: Active Learning of Demand with Stochastic Gradient Descent and Bootstrapped Thompson Sampling” with Kanishka Misra

“Delayed and Partial Bandit Feedback: Application to optimizing ECLV/CAC”

Early stages

“Dynamic treatment regimes for drip marketing email sequences”

“Expected Sample Size Calculations and Stopping Rules for Multi-Armed Bandit Experiments”

## Published conference proceedings

Alex Chojnaki, Chengyu Dai, Arya Farahi, Guangsha Shi, Jared Webb, Daniel T. Zhang, Abernethy, Jacob, **Eric Schwartz\*** (2017) “A Data Science Approach to Understanding Residential Water Contamination in Flint.” *KDD 2017, Proceedings of SIGKDD Conference on Knowledge Discovery and Data Mining, Halifax, NS, Canada*. Available on Arxiv, <https://goo.gl/EaGfmh>. \*Students first, then faculty; alphabetical order.

Jacob Abernethy, Cyrus Anderson, Chengyu Dai, Arya Farahi, Linh Nguyen, Adam Rauh, **Eric Schwartz**, Wenbo Shen, Guangsha Shi, Jonathan Stroud, Xinyu Tan, Jared Webb, Sheng Yang\* (2016), “Flint Water Crisis: Data-Driven Risk Assessment Via Residential Water Testing” in proceedings of Bloomberg Conference Data for Good Exchange, NY, NY. <https://goo.gl/rBHAlb>. \*alphabetical order

Jake Abernethy, Cyrus Anderson, Alex Chojnacki, Chengyu Dai, John Dryden, **Eric M. Schwartz**, Wenbo Shen, Jonathan Stroud, Laura Wendlandt, Sheng Yang, Daniel Zhang\* (2016), “Data Science in Service of Performing Arts: Applying Machine Learning to Predicting Audience Preferences,” in proceedings of Bloomberg Conference Data for Good Exchange, NY, NY. <https://goo.gl/GdMODV>. \*alphabetical order  
- In collaboration with University Musical Society, University of Michigan

Fairchild, Kenneth, Bryan Orme, **Eric M. Schwartz** (2015), “Bandit Adaptive MaxDiff Designs for Huge Number of Items,” *Proceedings of 2015 Sawtooth Software Conference*, 105-117. <https://goo.gl/5iq187>.

### **Research seminars, invited talks, competitive conferences**

Notre Dame Mendoza Marketing (upcoming April 2018)  
UT Dallas Bass FORMS, Presenter (March 2018)  
Emory Goizueta Marketing (March 2018)  
UT Dallas Marketing (February 2018)  
Chicago Booth Marketing (February 2018)  
Michigan, School of Information Seminar (October 2017)  
Carnegie Mellon Tepper (September 2017)  
Erasmus University, Rotterdam School of Management (April 2017)  
UT Dallas Bass FORMS, Discussant (March 2017)  
Hosmer-Hall Seminar, Michigan Ross (January 2017)  
Management Science Workshop, Chile (January 2017)  
Quantitative Marketing and Economics (October 2016)  
Michigan, School of Public Health (September 2016)  
Michigan, Computer Science Engineering Faculty Seminar (September 2016)  
Dartmouth, Tuck Marketing Camp (June 2016)  
Texas A&M Marketing (April 2016)  
Marketing in Israel 15 Conference (December 2015)  
NYU Conference on Big Data and Marketing Analytics (October 2015)  
Hosmer-Hall Seminar, Michigan Ross (March 2015)  
Temple, Fox Global Center for Big Data and Mobile Analytics (November 2014)  
Microsoft Research, Seattle (June 2014)  
Cornell Johnson Marketing (February 2014)  
Electronic Arts, Redwood City (February 2014)  
Google Play, Mountain View (February 2014)  
Stanford GSB Marketing (January 2014)  
London Business School (November 2012)  
INSEAD (November 2012)  
University of Michigan (November 2012)  
UCLA (October 2012)  
NYU (October 2012)  
Carnegie Mellon (October 2012)  
Northwestern (October 2012)  
Yale (October 2012)  
Boston University (October 2012)  
Emory (September 2012)  
University of Pittsburgh (September 2012)  
University of Washington (September 2012)  
Rotterdam School of Management / Erasmus School of Economics (January 2012)  
Tilburg University (January 2012)  
Marketing in Israel 11 Conference (December 2011)

### **Other talks and conference presentations**

American Marketing Association Conference, New Orleans (February 2018)

Marketing Science Conference, Los Angeles (June 2017),  
 - Machine Learning in Marketing, Special Track, Co-organizer  
 Customer Analytics in Retail Marketing, Los Angeles (May 2017)  
 Michigan Student Symposium for Interdisciplinary Statistical Sciences, Keynote (March 2017)  
 Quicken Loans Data Science, MIDAS Collaboration (January 2017)  
 Water @ Michigan Conference (January 2017)  
 Artificial Intelligence Lab, Michigan (October 2016)  
 Customer Analytics in Retail Marketing, New York (October 2016)  
 SPARK Machine Learning Workshop, Ann Arbor (October 2016)  
 Kickstart Computer Science, Ann Arbor (September 2016)  
 Bloomberg Data for Good Exchange (Presenter and Panelist), New York (September 2016)  
 Big Data Summer Institute Symposium, Ann Arbor (July 2016)  
 SPARK Workshop for Startups, Ann Arbor (March 2016)  
 INFORMS Annual Meeting, Philadelphia (November 2015), session co-organizer  
 Marketing Science Conference, Baltimore (June 2015)  
 Sawtooth Software Conference, Orlando (March 2015)  
 American Marketing Association Conference, San Antonio (February 2015)  
 Joint Statistical Meetings, Montreal (August 2013), Session Organizer  
 ART Forum, Chicago (June 2013)  
 Capital One, Webinar (June 2013)  
 Marketing Science Conference, Boston (June 2012)  
 Wharton Customer Analytics Initiative, Webinar with Elea Feit (September 2012)  
 Marketing Science Conference, Houston (June 2011)  
 Marketing Science Conference, Cologne (June 2010)  
 Jay H. Baker Retailing Initiative Board Meeting (November 2009)  
 Marketing Science Conference, Ann Arbor (June 2009)

### **Awards, grants, and honors**

\$60,000 from MCubed (\$60,000) with Laura Balzano and Al Hero (2016)  
 \$7,000 from NVIDIA donation of GPUs in support of MDST (2016)  
 20 in Their 20s, Crain's Business Detroit (2016)  
 Top 25 Reviewer for Marketing Science (2015)  
 Golden Apple Teaching Award Nominee, University of Michigan (2014, 2015)  
 MSI Clayton Dissertation Proposal Competition, Honorable Mention (2012)  
 ISMS Doctoral Dissertation Proposal Competition, Sheth Winner (2012)  
 AMA-Sheth Foundation Doctoral Consortium, Fellow (2011)  
 Workshop on Quantitative Marketing and Structural Econometrics, Fellow (Duke, 2010)  
 Russell Ackoff Award for Doctoral Student Research, Recipient (2009-2012)  
 Jay H. Baker Retailing Initiative Research Grant, Recipient (2009)  
 Lauder CIBER Grant, Recipient (2009)  
 University of Pennsylvania Class of 1939 Fellowship, Recipient (2008-2009)  
 INFORMS Marketing Science Doctoral Consortium, Fellow (2009-2012)  
 Wharton Doctoral Fellowship, Recipient (2008-2012)  
 Summa Cum Laude, Dean's List, University of Pennsylvania, GPA: 3.9/4.0 (2004-2008)  
 Benjamin Franklin Scholar, University of Pennsylvania (2004-2008)

### **Media coverage**

Data Science for Flint Water Crisis

December 2016 – Wrote report for City of Flint [Mayor’s Office](#), reported/cited in [Detroit News](#), [MLive](#), [WNEM \(TV\)](#), [Wikipedia](#)

September-October 2016 - Wrote article in [The Conversation](#) (with Jacob Abernethy), 8 September 2016 reported/reposted in [Scientific American](#), [Business Insider](#), [Associated Press](#), [USA Today](#), [Government & Technology](#), [Detroit Free Press](#) (1, 2, 3, and 4) [SF Gate](#), [Houston Chronicle](#), [TimesUnion](#), [Huron Daily Tribune](#), [RawStory](#), [Ross Thought in Action](#), [Civics Analytics on Medium](#),

May 2016 - Announcement for [Google funding](#) research and app development, joint with U-M Flint and Engineering, 3 May 2016 reported in [Chicago Tribune](#), [Tech Crunch](#), [Gizmodo](#), [The Hill](#), [Detroit Free Press](#), [MLive](#), [Michigan Radio](#), [The University Record](#), [Michigan Engineering News](#)

[Quoted in “Is Detroit ready for more soccer?” Detroit Free Press, 5 July 2016.](#)

[Profile in 20 in their 20s, Crain’s Business Detroit, 23 May 2016](#)

Profile in *Dividend, Michigan Ross, Fall 2015*

Model Selection Using Database Characteristics: Developing a Classification Tree for Longitudinal Incidence Data

- Featured in *Ross Thought in Action* (November 2013)
- Featured in *Knowledge@Wharton* (August 2012)

What Drives Immediate and Ongoing Word of Mouth

- Featured in book *Contagious* (2013)
- Featured in *Insights from MSI* (Fall 2010), formerly *MSI Working Paper* [10-105]

## Teaching

### Instructor

Marketing Management (Ross MBA Core, MKT 300), 2017 Fall

Marketing Management (Ross BBA, MKT 300), 2013, 2014, 2015, 2016 (all Fall)

## Student advising

### PhD Dissertation

Committee Member

Prashant Rajaram, Marketing, current

Longxiu Liu, Marketing, current

Yanzhe (Murray) Lei, Technology and Operations, 2018

Evgeny Kagan, Technology and Operations, 2018

Eunsoo Kim, Marketing, 2017

Qi George Chen, Technology and Operations, 2017

Guy Benedict Wilkinson, Sports Management, 2017

Joseph Golden, Economics, 2015

## Service

To the marketing field

Reviewing activity as ad hoc reviewer

*Marketing Science*

*Journal of Marketing Research*

*Management Science*

*Quantitative Marketing and Economics*

*Journal of Consumer Research*

*Marketing Letters*

*Journal of the American Statistical Association*

*Journal of Applied Econometrics*

Conference activity

Session co-organizer, "Machine Learning in Marketing," INFORMS Annual Meeting, Philadelphia (November 2015)

Track co-organizer, "Machine Learning in Marketing," Marketing Science Conference, Los Angeles (June 2017)

To Ross School of Business and the University of Michigan

Michigan Data Science Team, Faculty Co-Advisor (2015-16, 2016-17)

Ross Marketing 300 Course Coordinator (2015 Fall, 2016 Fall, 2017 Fall)

Ross Marketing Student Awards Committee (2013-14, 2014-15, 2016-17)

Ross Undergraduate Marketing Club Advisor (2014-15, 2015-16, 2016-17)

Ross MBA Data Insights and Analytics Club Co-Advisor (2015-16, 2016-17)

School of Kinesiology, Sports Marketing Faculty Search Committee (2016 Winter)  
Ross Marketing Internal Seminar Coordinator (2014-15)  
Marketing Undergraduate Case Competition Coach (2014, 2015)  
-First place at national L'Oreal Brandstorm Competition (2014)  
Google Online Marketing Challenge Advisor (2015, 2016)

**Professional affiliations**

American Marketing Association  
American Statistical Association  
INFORMS Society for Marketing Science  
Phi Beta Kappa

**Computer and natural languages**

Fluent: R, Spanish, SQL  
Proficient: Catalan, Matlab, Python, SAS