

## SONG YAO

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### **PROFESSIONAL EXPERIENCE**

- Principal Economist, Amazon.com Core AI Group, 2022-Present
- Associate Professor of Marketing (with tenure), Olin Business School, Washington University in St. Louis, 2019 – Present
- Associate Professor of Marketing (with tenure), Carlson School of Management, University of Minnesota, 2017 – 2019
- Assistant Professor of Marketing, Kellogg School of Management, Northwestern University, 2010 – 2017
- Visiting Scholar, Booth School of Business, University of Chicago, September 2016 – December 2016
- McManus Faculty Research Chair, Northwestern University, 2012-2013, 2014-2015
- Visiting Scholar, Graduate School of Business, Stanford University, September 2014 – December 2014
- Senior Lecturer of Marketing and Donald P. Jacobs Scholar, Kellogg School of Management, Northwestern University, 2009 – 2010
- Instructor, Duke University, 2007

### **EDUCATION**

- Ph.D., Marketing, Duke University, 2009
- M.A., Economics, University of California, Los Angeles, 2004
- C.Phil., Economics, University of California, Los Angeles, 2003
- B.A., Economics, Renmin University of China, 1999

### **RESEARCH**

Research Interests: Quantitative Marketing, Empirical Microeconomics, Advertising, New Technology, Auctions, Competitive Strategy, Customer Analytics.

Publication:

1. Raphael Thomadsen, Robert Zeithammer, and Song Yao (2023), “Impact of a Supreme Court Decision on the Preferences of Americans regarding Abortion Policy,” *Management Science*, forthcoming
2. Daljord, Øystein, Carl F. Mela, Jason Roos, Jim Sprigg, and Song Yao (2022), “The Design and Targeting of Compliance Promotions,” *Marketing Science*, forthcoming.
3. Zhao, Nan, Song Yao, Raphael Thomadsen, and Zack Wang (2022), “The Impact of Government Interventions on COVID-19 Spread and Consumer Spending,” *Management Science*, forthcoming.
4. Seiler, Stephan, Anna Tuchman, and Song Yao (2021), “The Impact of Soda Taxes: Pass-through, Tax Avoidance, and Nutritional Effects,” *Journal of Marketing Research*, 58(1), pp. 22-49.
  - Finalist, Paul Green Award 2021

- Distinguished Winner, AMA-EBSCO-RRBM Award for Responsible Research in Marketing 2023
- 5. Liu, Meng, Raphael Thomadsen, and Song Yao (2020), “Forecasting the Spread of COVID-19 under Different Reopening Strategies,” *Scientific Reports*, 10, 20367.
- 6. Bollinger, Bryan and Song Yao (2018), “Risk Transfer versus Cost Reduction on Two-Sided Microfinance Platforms,” *Quantitative Marketing and Economics*, 16(3), pp. 251-287.
- 7. Seiler, Stephan, Song Yao, and Wenbo Wang (2017), “Does Online Word-of-Mouth Increase Demand? (and How?) Evidence from a Natural Experiment,” *Marketing Science*, 36(6), pp. 838–861.
- 8. Seiler, Stephan, and Song Yao (2017), “The Impact of Advertising along the Conversion Funnel,” *Quantitative Marketing and Economics*, 15 (3), pp. 241-278.
  - Runner-up, Dick Wittink Prize 2018
- 9. Yao, Song, Wenbo Wang, and Yuxin Chen (2017), “TV Channel Search and Commercial Breaks,” *Journal of Marketing Research*, 54 (5), pp. 671-686.
- 10. Chen, Yuxin and Song Yao (2017), “Sequential Search with Refinement: Model and Application with Click-stream Data,” *Management Science*, 63(12), pp. 4345-4365.
- 11. Anja Lambrecht, Avi Goldfarb, Alessandro Bonatti, Anindya Ghose, Dan Goldstein, Randall Lewis, Anita Rao, Navdeep Sahni, Song Yao (2014), “How Do Firms Make Money Online?” *Marketing Letters*, 25, pp. 331-341.
- 12. Yao, Song, Carl F. Mela, Jeongwen Chiang, and Yuxin Chen (2012), “Determining Consumers' Discount Rates with Field Studies,” *Journal of Marketing Research*, 49 (6), pp. 822-841.
  - Winner, Paul Green Award 2012
- 13. Yao, Song and Carl F. Mela (2011), “A Dynamic Model of Sponsored Search Advertising,” *Marketing Science*, 30 (3), pp. 447-468.
  - Winner, 2009 AMA John A. Howard Award
  - Finalist, 2011 INFORMS John D.C. Little Best Paper Award.
  - Finalist, 2011, 2012 INFORMS Frank M. Bass Best Dissertation Paper Award.
  - Finalist, 2019 INFORMS Long Term Impact Award
- 14. Yao, Song and Carl F. Mela (2009), “Sponsored Search Auctions: Research Opportunities in Marketing,” *Foundations and Trends in Marketing*, 3 (2), pp. 75-126.
- 15. Yao, Song and Carl F. Mela (2008), “Online Auction Demand,” *Marketing Science*, 27 (5), pp. 861–885.
  - Finalist, 2008 INFORMS John D.C. Little Best Paper Award
  - Finalist, 2017 INFORMS Long Term Impact Award

#### Working Paper:

- Song, Yicheng, Wenbo Wang, and Song Yao, “Towards Interpretable Programmatic Advertising via Deep Reinforcement Learning,” Revise and Resubmit *Information Systems Research*
- Yoo, Hyesung, Song Yao, Ravi Bapna, and Jui Ramaprasad, “Search Frictions, Sorting and Matching in Two-Sided Markets,” Reject and Resubmit *Marketing Science*
- Wang, Chong Bo (Zack), Qiyuan Wang, Tat Chan, and Song Yao, “Using Field Experiments to Infer Cross-Side Network Effects in the Ride-Sharing Market,” Reject and Resubmit *Marketing Science*
- Karaman, Hulya, Cheolho Song, Tat Chan, and Song Yao, “Spillover Effects of Online Reviews: Evidence from the Hotel Industry,”

- Yoo, Hyesung, Maria Ana Vitorino, and Song Yao, “Hospital Competition and Quality Under Regulated Prices: Evidence from the Entry of High-Speed Train in South Korea.”
- Zhang, Kenan, Hongyu Chen, Song Yao, Linli Xu, Jiaojia Ge, Xiaobo Liu, and Yu (Marco) Nie, “An Efficiency Paradox of Uberization.”
- Stephan Seiler, Song Yao, and Georgios Zervas “Causal Inference in Word-of-Mouth Research: Methods and Results,” in preparation for *Customer Analytics for Maximum Impact: Academic Insights and Business Use Cases*, Taylor & Francis (CRC Press), edited by S. Seetharaman.

Work in progress

- Wang, Zack, Yanyi Leng, Nan Zhao, Stephen Nowlis, Song Yao (2023), “The Effect of External Goal Switch on Performance.”
- Yoo, Hyesung, Song Yao, Luping Sun, Xiaomeng Du (2019), “Using Machine Learning to Address Customer Privacy Concerns: An Application with Click-stream Data.”

### **HONORS AND AWARDS**

- Distinguished Winner, AMA-EBSCO-RRBM Award for Responsible Research in Marketing, 2023
- Marketing Science Institute (MSI) Scholar, 2022
- Finalist, Paul Green Award 2021
  - Awarded annually by the American Marketing Association Foundation for the paper published in the *Journal of Marketing Research* and with the most potential to contribute to the practice of marketing research.
- Runner-up, Dick Wittink Prize, 2018.
  - Awarded annually to the best paper published in the preceding volume of the journal of *Quantitative Marketing and Economics*.
- Carlson School Dean's Small Grant, University of Minnesota, 2017
- Finalist, INFORMS Long Term Impact Award, 2017, 2019
  - Awarded annually by the INFORMS Society of Marketing Science to a marketing paper that is viewed to have made a significant long run impact on the field of Marketing.
- Marketing Science Institute (MSI) Young Scholars, 2017
- McManus Faculty Research Chair, Northwestern University, 2012-2013, 2014-2016
- Marketing Science Institute (MSI) Research Grant #4-1849, 2014 (joint with Yuxin Chen)
- Management Science Meritorious Service Award 2013
- Winner, Paul Green Award 2012
  - Awarded annually by the American Marketing Association Foundation for the paper published in the *Journal of Marketing Research* and with the most potential to contribute to the practice of marketing research.
- Invited Faculty Speaker, INFORMS Marketing Science Doctoral Consortium, Boston University, 2012
- Finalist, John D.C. Little Best Paper Award, Marketing/Management Science, 2011, 2009
  - Awarded annually for the best marketing paper published in *Marketing Science/Management Science*
- Finalist, Frank M. Bass Best Dissertation Paper Award, 2011, 2012
  - Awarded annually for the best marketing paper derived from a Ph.D. thesis published in *Marketing Science/Management Science*

- Top 30 Reviewers for 2011 at Marketing Science (Fastest turnaround).
- Faculty Impact Award for MBA teaching excellence, Kellogg School of Management, Northwestern University, 2010
- Winner, John A. Howard Dissertation Award, 2009
  - Awarded annually by the American Marketing Association Foundation
- NET Institute Summer Research Grant (with Carl F. Mela), 2008
- Graduate Fellowship, Duke University, 2004-2009
- Graduate Fellowship, University of California, Los Angeles, 2002-2004

#### **ACADEMIC AND PROFESSIONAL ACTIVITIES**

- Associate Editor
  - Quantitative Marketing and Economics, 2021-
  - Service Science, 2018-2021
- Guest Associate Editor
  - Marketing Science, 2023-
  - Information Systems Research, 2019-2021
- Editorial Review Board
  - Journal of Marketing Research, 2011-
  - Marketing Science, 2017-present
  - International Journal of Research in Marketing, 2021-
- Reviewer
  - Management Science
  - Journal of Marketing
  - Journal of Economics and Management Strategy
  - Marketing Letters
  - Operations Research
  - Research Grants Council of Hong Kong
  - Review of Marketing Science
  - The Economics of Transition
  - Social Sciences and Humanities Research Council of Canada (SSHRC)
- Discussant for
  - Choice Symposium, 2013
  - China India Consumer Insights Conference, 2013
  - Summer Institute of Competitive Strategy (SICS), University of California, Berkeley, 2012, 2013, 2016, 2017, 2019
  - Quantitative Marketing and Economics Conference, Rochester 2011, USC 2014
  - Big Data Marketing Analytics Conference, Chicago Booth, 2014, 2016
  - Consumer Search and Switching Costs Workshop, UCLA, 2019
  - Junior Faculty Development Forum, Washington University, 2023
- Guest speaker
  - Chicago Booth PhD seminar, 2012

## **CONFERENCE AND INVITED PRESENTATIONS (including scheduled)**

“The Design and Targeting of Compliance Promotions,”

- Summer Institute of Competitive Strategy (SICS), Berkeley, CA, 2022
- UTD FORMS Conference, 2022
- Johns Hopkins University, 2022

“The Impact of Soda Taxes: Pass-through, Tax Avoidance, and Nutritional Effects”

- University of Rochester, 2019
- Washington University in St. Louis, 2018
- Yale Customer Insights Conference, 2018
- University of Minnesota, Applied Microeconomics Summer Seminar Series, 2018
- INFORMS Marketing Science Conference, Philadelphia, PA, 2018

“The Impact of Advertising Along the Conversion Funnel.”

- Yale Customer Insights Conference, 2017
- INFORMS Marketing Science Conference, Shanghai, China, 2016

“Does Online Word-of-Mouth Increase Demand? (and How?) Evidence from a Natural Experiment,”

- Quantitative Marketing and Economics Conference, Northwestern University, 2016
- University of Minnesota, 2016
- The Seventh Annual Searle Center Conference on Internet Commerce and Innovation, Northwestern University, 2016
- University of California, San Diego, 2016
- University of Florida OM/IS Group, 2016
- University of Colorado, Boulder 2016
- Kellogg Attitudes Motivation and Processing (KAMP) Workshop, Northwestern University, 2016
- Big Data Marketing Analytics Conference at NYU Stern, 2015
- University of British Columbia, 2015
- Temple University, 2015

“TV Channel Search and Commercial Breaks,” previously entitled “The Value of Sampling”

- University of Southern California, 2015
- University of Houston, 2015
- Stanford University, 2014
- Washington University in St. Louis, 2014
- INFORMS Marketing Science Conference, Atlanta, GA, USA, 2014

“Sequential Search with Refinement: Model and Application with Click-stream Data,” previously entitled “Search with Refinement”

- University of North Carolina at Chapel Hill, 2014
- Cornell University, 2014
- Third Annual Conference on Internet Search and Innovation, Northwestern University Law School, Chicago, USA, 2012

- INFORMS Marketing Science Conference, Boston, MA, USA, 2012
- Ohio State University, 2012

“Determining Consumers’ Discount Rates with Field Studies”

- Kellogg Marketing Camp, Northwestern University, 2012
- Marketing Dynamics Conference, Tilburg University, Netherlands, 2012
- Columbia University, 2012
- National Bureau of Economic Research Summer Institute, Cambridge, MA, USA, 2011
- INFORMS Marketing Science Conference, Houston, TX, USA, 2011
- Frank Bass–UTD FORMS Marketing Conference, Dallas, TX, USA, 2011
- China India Consumer Insights Conference, Beijing, China, 2010

“A Dynamic Model of Sponsored Search Advertising”

- Yale University, 2010
- American Marketing Association Summer Educators’ Conference, Chicago, IL, USA, 2009
- National Bureau of Economic Research Summer Institute, Cambridge, MA, USA, 2009
- NET Institute Conference, New York University, New York, NY, USA, 2009
- INFORMS Marketing Science Conference, Vancouver, Canada, 2008
- Cornell University, 2008
- Dartmouth College, 2008
- Emory University, 2008
- Georgia Institute of Technology, 2008
- Georgia State University, 2008
- Harvard Business School, 2008
- New York University, 2008
- Northwestern University, 2008
- Ohio State University, 2008
- Stanford University, 2008
- University of California, Berkeley, 2008
- University of Chicago, 2008
- University of Maryland, 2008
- University of Rochester, 2008
- University of Southern California, 2008

“Online Auction Demand”

- Frank Bass–UTD FORMS Marketing Conference, Dallas, TX, USA, 2008
- INFORMS Marketing Science Conference, Pittsburgh, PA, USA, 2006

## **ADMINISTRATIVE SERVICE**

- PhD Advising
  - Donggwan Kim (Washington University, dissertation committee member, initial placement: Boston College)
  - Nan Zhao (Washington University, dissertation committee member, initial placement: Georgia Institute of Technology)

- Hyesung Yoo (Washington University, dissertation chair, initial placement: University of Toronto)
- Manuel Hermosilla (Northwestern University, dissertation committee member, initial placement: Johns Hopkins University)
- Simha Mummalaneni (Northwestern University, dissertation co-chair, first year and second year summer papers, initial placement: University of Washington)
- Tongtong Shi (Northwestern University, dissertation committee member, initial placement: Analysis Group)

#### WASHINGTON UNIVERSITY IN ST. LOUIS

- Service
  - PhD Co-coordinator of Marketing Department, 2021-2022
  - School Doctoral Program Committee, Member, 2021-2022
  - School Undergraduate Program Committee, Member, 2021-2022
  - School Promotion and Tenure Committee, Member, 2020
  - Faculty Recruiting Committee, Chair, 2020

#### UNIVERSITY OF MINNESOTA

- Service
  - School Promotion and Tenure Committee, Chair, 2018-2019, Member, 2017-2018, 2018-2019
  - PhD Recruiting, 2019
  - Member, Department PhD Reunion Committee, 2018

#### Northwestern University

- Service
  - Coordinator, Department Seminar Series, 2009-2010, 2013-2016
  - Department Junior Faculty Recruiting, 2009-2012, 2013-2016
  - Coordinator, Department Junior Faculty Recruiting, 2010, 2014
  - Department Senior Faculty Recruiting Reading Committee, 2010, 2012
  - PhD Recruiting, 2009-2014
  - Full-time MBA Curriculum Committee, 2012
  - Day at Kellogg (DAK) admission event mini-lecture instructor, 2012

### **TEACHING**

#### WASHINGTON UNIVERSITY IN ST. LOUIS

- Instructor, Customer Analytics (Master of Business Analytics and MBA), 2020-

#### University of Minnesota

- Instructor, Digital Marketing Analytics (MBA and Undergraduate), 2018-
- Instructor, Customer Analytics (MBA), 2019-
- Instructor, Quantitative Marketing Modeling (PhD), 2019-

#### Northwestern University

- Instructor, Customer Analytics (MBA), 2010-2017
- Instructor, Topics in Managerial Analytics (Undergraduate), 2013-2015
- Instructor, Introduction to Applied Econometrics II (PhD), 2011-2013

Duke University

- Instructor, Marketing Management, Markets and Management Studies Program, 2007
- Teaching Assistant, Product Management, Prof. Carl F. Mela, 2007, 2009
- Teaching Assistant, Strategy and Tactics of Pricing, Prof. Wilfred Amaldoss, 2006, 2007

University of California, Los Angeles

- Teaching Associate, Microeconomic Theory, 2003, 2004
- Teaching Assistant, Introduction to Microeconomics, 2002, 2003

#### **PROFESSIONAL AFFILIATIONS**

- American Marketing Association
- INFORMS Marketing Science Society

#### **MEDIA COVERAGE**

- National Public Radio
- MarketWatch
- National Review
- Financial Times
- Washington Post
- The Economist
- Kellogg Insight