Rafael Becerril Arreola

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EDUCATION

UCLA (University of California, Los Angeles), USA — 2008 - 2013
Ph.D. in Management(focus on Quantitative Marketing and Economics)

University of Toronto, Canada — 2001 - 2003
M.A.Sc. in Electrical Engineering (focus on Automatic Control)

ITESM (Instituto Technológico de Estudios Superiores de Monterrey), Mexico — 1996 - 2000
B.Sc. in Electrical and Computer Engineering

EMPLOYMENT

University of South Carolina, USA
Dean's Fellow, Darla Moore School of Business — 2021 -
Assistant Professor of Marketing, Darla Moore School of Business — 2013 -

Lingnan University, Hong Kong
Visiting Tutor, English Dept. — 2008
Senior Research Assistant, Computing and Decision Sciences Dept. — 2007 - 2008
Research Assistant, Computing and Decision Sciences Dept. — 2006 - 2007

ARBE Transportation, Mexico
Systems Analyst (part-time contractor) — 2005 - 2006

AVW-TELAV, Canada
Systems Design Specialist, System Design and Integration Dept. — 2004 - 2005

Concordia University, Canada
Research Associate, Electrical and Computer Engineering Dept. — 2003 - 2004

ITESM, Mexico
Instructor, Division of Engineering — 2001

EXPERTISE

Research. I study the roles of socioeconomics and digital technology in consumer markets, focusing on their implications for marketing, operations, and economics. To this end, I develop and apply tools from econometrics, Bayesian statistics, automatic control, optimization, and high-performance computing, supported by theories from marketing, operations, economics, psychology, and sociology.

Teaching. My specialty is business analytics and data science at both undergraduate and graduate levels. I teach the conceptual foundations and the practical application of data analysis tools, through the case method, in-class labs, and consulting assignments with consumer goods companies. Delivered in face-to-face, distributed, and mixed formats, my courses emphasize critical thinking and highly-structured best practices to tackle the complexity of real-life problems.

Practice. Most of my work pertains to pricing, branding, assortment, product line, and delivery decisions in automotive, retailing, e-commerce, and consumer packaged good industries. My consulting experience has so far focused on pricing and product line decisions.

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PUBLICATIONS IN ACADEMIC JOURNALS ————————————————————————————

1. Rafael Becerril-Arreola and Randolph E. Bucklin. Beverage Bottle Capacity, Packaging Efficiency, and the Potential for Plastic Waste Reduction. **Scientific Reports**, 11(3542), 2021. doi:10.1038/s41598-021-82983-x.
   Featured in New Scientist, ScienMag, Inverse, Florida News Times, Europa Press, EurekAlert!, Azom, Phys.org, The Herald, Ambiente Plástico, Technologie Média, Sina, Zimo Dnevnik, Plastic Food Packaging Waste News, Nature Asia, Science in Poland, Gigazine, Notiamérica, Clarín, Publímetro, Unfoldtimes, Newsbreak, Infobae, La Repubblica, Rakéta, La Stampa, Eco dalle città, Piece Business, Food Processing, etc.

2. Rafael Becerril-Arreola, Randolph E. Bucklin, and Raphael Thomadsen. Effects of Income Distribution Changes on Assortment Size in the Mainstream Grocery Channel. **Management Science**, Forthcoming. doi:10.1287/mnsc.2020.3785.
   Featured in phys.org, newswise, Futurity

3. Rafael Becerril-Arreola. Estimating Demand with Substitution and Intraline Price Spillovers. **Manufacturing & Service Operations Management**, 22(3):598–614, 2020. doi:10.1287/msom.2018.0765.

4. Yong Tang, Jie Xiong, Rafael Becerril-Arreola, and Lakshmi Iyer. Ethics of Blockchain. **Information Technology & People**, 33(2):602–632, 2020. doi:10.1108/ITP-10-2018-0491.
   Featured in Cointelegraph Magazine, FutureNews

5. Chen Zhou, Shrihari Sridhar, Rafael Becerril-Arreola, Tony H. Cui, and Yan Dong. Promotions as Competitive Reactions to Recalls and Their Consequences. **Journal of the Academy of Marketing Science**, 47(4):702–722, 2019. doi:10.1007/s11747-018-0611-8.

6. Rafael Becerril-Arreola, Chen Zhou, Raji Srinivasan, and Daniel Seldin. Service Satisfaction-Market Share Relationships in Partnered Hybrid Offerings. **Journal of Marketing**, 81(5):86–103, 2017. doi:10.1509/jm.15.0537.

7. Rafael Becerril-Arreola, Mingming Leng, and Mahmut Parlar. Online Retailers' Promotional Pricing, Free-Shipping Threshold, and Inventory Decisions: A Simulation-Based Analysis. **European Journal of Operational Research**, 230(2):272–283, 2013. Authors listed in alphabetical order. doi:10.1016/j.ejor.2013.04.006.

8. Mingming Leng and Rafael Becerril-Arreola. Joint Pricing and Contingent Free-Shipping Decisions in B2C Transactions. **Production and Operations Management**, 19(4):390–405, 2010. doi:10.1111/j.1937-5956.2009.01112.x.

9. Rafael Becerril-Arreola, Amir G. Aghdam, and Rashid R. Kohan. Variable Structure Decentralized Control and Estimation for Highway Traffic Systems. **Journal of Dynamic Systems, Measurement, and Control**, 130:041002, 2008. doi:10.1115/1.2907389.

10. Rafael Becerril-Arreola. A Comment of Kim Warren's Paper: Why Has Feedback Systems Thinking Struggled to Influence Strategy and Policy Formulation. **Systems Research and Behavioral Science**, 24(1):115–118, 2007. doi:10.1002/sres.790.

11. Rafael Becerril-Arreola, Amir G. Aghdam, and Valery D. Yurkevich. Decentralised Two-Time-Scale Motions Control Based on Generalised Sampling. **IET Control Theory & Applications**, 1(5):1477–1486, 2007. doi:10.1049/iet-cta:20070020.

12. Rafael Becerril-Arreola and Amir G. Aghdam. Decentralised Nonlinear Control with Disturbance Rejection for On-Ramp Metering in Highways. **IET Control Theory & Applications**, 1(1):253–262, 2007. doi:10.1049/iet-cta:20045192.

13. Amir G. Aghdam, Edward J. Davison, and Rafael Becerril-Arreola. Structural Modification of Systems Using Discretization and Generalized Sampled-Data Hold Functions. **Automatica**, 42(11):1935–1941, 2006. doi:10.1016/j.automatica.2006.06.005.

14. Manfredi Maggiore and Rafael Becerril. Modeling and Control Design for a Magnetic Levitation System. *International Journal of Control*, 77(10):964–977, 2004. `doi:10.1080/002071704200024392`.

15. Rafael Becerril Arreola. Output Feedback Nonlinear Control for a Linear Motor in Suspension Mode. *Automatica*, 40(12):2153–2160, 2004. `doi:10.1016/j.automatica.2004.07.005`.

PAPERS UNDER REVIEW OR REVISION

1. Rafael Becerril-Arreola, Mark Ferguson, Mingming Leng, and Mahmut Parlar. Delivery-Time Ratings, Prices, and the Trade-off between Delivery Speed and Delivery Conformance in Online Marketplaces. Reject and resubmit. Authors listed in alphabetical order.

2. Rafael Becerril-Arreola and Dominique M. Hanssens. Quantifying and Explaining Product Category Positionality. Revising for submission.

3. Rafael Becerril-Arreola. Veblen Effects and Counter-Effects: How Local Product-Price Rankings Explain Consumer Choice. Revising for submission.

RESEARCH IN PROGRESS (ADVANCED PROJECTS)

1. Rafael Becerril-Arreola, Randolph E. Bucklin, and Nitin Mehta. Heterogeneous Effects of Income Changes on Consumer Behavior.

2. Rafael Becerril-Arreola and Randolph E. Bucklin. Marketing Implications of Rising Income Inequality in the U.S.

3. Sina Aghaie, Carlos J.S. Lourenco, Charles H. Noble, and Rafael Becerril-Arreola. Bluff or Real? An Empirical Analysis of the Correlates of Entry Threats.

4. Rafael Becerril-Arreola. Exploring disparate impact and market power in online retailing.

CONFERENCE PROCEEDINGS

1. Yong Tang, Jie Xiong, Rafael Becerril-Arreola, and Lakshmi Iyer. Blockchain Ethics Research: A Conceptual Model. In *Proceedings of the ACM SIGMIS Computers and People Research Conference*, Nashville, TN, Jun 2019.

2. Rafael Becerril-Arreola, Denise Dahlhoff, Ravi Dhar, Gilles Laurent, Jessie Handbury, Christian Kalweit, and John Zhang. Pricing the Priceless: How to Charge Luxury Prices. In Barbara Kahn, Joseph Nunes, and David Bell, editors, *White papers of the 2015 Online Luxury Retailing Conference*, New York, NY, 2015. Authors listed in alphabetical order.

3. Rafael Becerril-Arreola, Amir G. Aghdam, and Edward J. Davison. Minimizing Interaction of Subsystems in Large-Scale Interconnected Systems Using Generalized Sampling. In *Proceedings of the 16th IFAC World Congress*, Prague, Czech Republic, Jul 2005.

4. Rafael Becerril and Amir G. Aghdam. On-Ramp Decentralized Nonlinear Control with Disturbance Rejection. In *Proceedings of the 16th IFAC World Congress*, Prague, Czech Republic, Jul 2005.

5. Rafael Becerril, Amir G. Aghdam, and Valery D. Yurkevich. Decentralized Two-Time-Scale Motions Control Using Generalized Sampled-Data Hold Functions. In *Proceedings of the 2004 American Control Conference*, volume 4, Boston, MA, Jun 2004.

6. Rafael Becerril, Amir G. Aghdam, and Rashid R. Kohan. Decentralized Nonlinear Traffic Control–II: Sliding Mode Observers. In *Proceedings of the 43rd IEEE Conference on Decision and Control*, Nassau, Bahamas, Dec 2004.

7. Rashid R. Kohan, Rafael Becerril, and Amir G. Aghdam. Decentralized Nonlinear Traffic Control–I: Variable Structure Linearizing Control. In **Proceedings of the 43rd IEEE Conference on Decision and Control**, Nassau, Bahamas, Dec 2004.

8. Rafael Becerril-Arreola and Manfredi Maggiore. Nonlinear Stabilization of a 3 Degrees-of-Freedom Magnetic Levitation System. In **Proceedings of the 2003 American Control Conference**, volume 2, Denver, CO, Jun 2003.

CONFERENCE PRESENTATIONS

1. Heterogeneous Veblen Effects: Evidence from the Car Rental Market. In **Marketing Science Conference**, Philladelphia, PA, Jun 2018.

2. What Are the Welfare Effects of Consumer Brand Deletions? In **Marketing Science Conference**, Los Angeles, CA, Jun 2017.

3. Does Income Inequality Matter in Marketing? A Cross - Category, Cross - Market Look at Consumer Product Availability. In **Marketing Science Conference**, Baltimore, MA, Jun 2015.

4. Does Income Inequality Matter in Marketing? A Cross-Category, Cross-Market Look at Consumer Product Availability. In **Theory + Practice in Marketing Conference**, Atlanta, GA, Jun 2015.

5. The Relationships among Income, Preferences, and Consumer Motivation. In **Marketing Science Conference**, Boston, MA, Jun 2012.

6. The Multiple Moderating Effects of Social Comparisons on Consumer Expenditures. In **Marketing Science Conference**, Houston, TX, Jun 2011.

7. Social Comparisons and Consumption. In **Doctoral Symposium in Marketing**, Houston, TX, Apr 2010. University of Houston.

INVITED PRESENTATIONS

1. Heterogeneous Veblen Effects: Evidence from the Car Rental Market. **ESSEC Business School**, Jun 2019.

2. Heterogeneous Veblen Effects: Evidence from the Car Rental Market. **Shanghai University of Finance and Economics**, Jun 2018.

3. Competitive Reactions and Spillover Effects of Product Recalls. **University of California, Los Angeles, Marketing Area Research Symposium**, May 2016.

4. Does Income Inequality Matter in Marketing? A Large Scale Analysis of Consumer Product Availability. Columbia, SC, Apr 2016. **Symposium on Research Computing Infrastructure**.

5. The Effects of Economic Inequality on the Demand for Status-Signaling Brands. Job market paper presented at **Boston University, University of Washington Seattle, George Washington University, Tilburg University, VU Amsterdam, University of California Riverside, University of South Carolina**, 2012-2013.

GRANTS

Association for Computing Machinery
Management Information Systems research grant $3,000   2018 - 2019

University of South Carolina
Center for Teaching Excellence, online course design grant $500   2020

University of South Carolina, Darla Moore School of Business

Professional MBA course redesign grant $5000	2020
Moore research grants $5,750	2020
Moore research grants $5,500	2019
Moore research grant $5,000	2016
Moore research grant $2,500	2014
Moore research grant $3,000	2013

TEACHING EXPERIENCE

University of South Carolina, Darla Moore School of Business, USA

Developed and taught:

MKTG448: online synchronous undergraduate course on Data Science (machine learning, algorithmic biases, business aspects of data science, etc.)	2020 -
MKTG717: hybrid distributed and face-to-face MBA course on Marketing Analytics (analytics lifecycle management, fundamentals of analytics methods, biases, etc.)	2014 -
MKTG750: MBA practicums involving consulting projects on Marketing Analytics (price optimization, market structure measurement, etc.)	2013 - 2015
MKTG712: face-to-face MBA course on Marketing Analytics (predictive analytics, marketing experiments, CLV, conjoint analysis, etc.)	2013

Taught:

MKTG451: face-to-face undergraduate course on Marketing Analytics (regression diagnostics, forecasting, data mining, optimization, etc.)	2016 - 2019

ITESM, Mexico

Developed and taught undergraduate course on electric circuits	2001

STUDENT ADVISING

University of South Carolina, Marketing Department

PhD Dissertation Committee (co-chair) for Sina Aghaie	2017 - 2019
PhD Comprehensive Exam Committee (member)	2017 - 2019
PhD Qualifying Exam Committee (member)	2014 - 2019

University of South Carolina, Management Science Department

PhD Qualifying Exam Committee (member)	2017 - 2018

University of South Carolina, Computer Science Department

Master Thesis Committee (member) for Surya Bhatt	2014 - 2015

SERVICE TO DEPARTMENT, SCHOOL, UNIVERSITY, AND COMMUNITY

University of South Carolina, Marketing Department

PhD Admission Committee (member)	2019 -
Center for Marketing Solutions' Advisory Board (member)	2014 - 2016
Faculty Recruiting Committee (member)	2013 - 2015

University of South Carolina, Darla Moore School of Business

Master of Science on Business Analytics, Program Launch Committee (member)	2020 -
Institutional Nielsen datasets subscription (administrator)	2019 -
Faculty Advisory Committee (member)	2017 - 2020
Analytics Certificate Committee (member)	2014 - 2016

University of South Carolina

Research Computing Advisory Committee (member)	2019 -
University Bookstores' Committee (member)	2015 - 2017
University Bookstores' Committee (co-chair)	2014 - 2015

Dutch Fork High School

Advanced Placement Research Program (mentor)	2019 - 2020

SERVICE TO PROFESSION

Ad hoc reviewer for: Marketing Science, Journal of Marketing, Manufacturing & Service Operations Management, Production and Operations Management, Information Systems Research, Journal of Public Policy & Marketing, Transportation Research Part A: Policy and Practice, European Journal of Operational Research, ACM (Association for Computing Machinery) Computing Surveys

HONORS AND AWARDS

University of South Carolina

Darla Moore School of Business, Dean's Fellow	2021 -

ACM (Association for Computing Machinery)

SIGMIS CPR Magid Igbaria Outstanding Conference Paper Award finalist	2019

MSI (Marketing Science Institute)

Honorable Mention, Clayton Dissertation Award	2012

UCLA (University of California, Los Angeles)

Fellow, American Marketing Association Sheth Doctoral Consortium	2011
Fellow, Columbia-Duke-UCLA Workshop on Quantitative Marketing	2010
Fellow, Doctoral Symposium in Marketing, University of Houston	2010
Fellow, Doctoral Internationalization Consortium in Marketing, UT Austin	2009
Graduate, Teaching, and Research Fellowships	2008 - 2013
Anderson Educational Fellowship	2008 - 2012

University of Toronto

Graduate, Teaching, and Research Fellowships	2001 - 2003

ICIA (International Communication Industries Association)

Educational Communications Foundation Scholarship	2001

ITESM (Instituto Technológico de Estudios Superiores de Monterrey)

Excellence Scholarship for Master's program	2001
Highest GPA in undergraduate major, graduation honors	2000
Undergraduate merit-based scholarship	1996 - 2000

IHS (Information Handling Services)

1st place in the IHS96 Research Prize	1996

SOFTWARE SKILLS (RECENTLY USED)

Statistical software and computer languages

R, SAS, STAN, Python, C, C++, SQL

High performance computing platforms and operating systems

PBS and SLURM job managers, MPI protocol, Windows and Linux (basic administration)