

DAN ZHANG

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Last update: July 7, 2013

Education

Ph.D., Industrial Engineering, University of Minnesota, 2005

Advisor: Professor William L. Cooper

Dissertation topic: Revenue Management with Customer Choice

M.E. (with Honors), Manufacturing Engineering, Chongqing University, 2000

B.E. (graduated first in class), Mechanical Engineering, Chongqing University, 1997

Research Interests

Application Areas: Revenue management and pricing, supply chain management

Methodologies: Dynamic programming and optimization, stochastic modeling, game theoretical models, consumer behavior models

Journal Articles (Published/Accepted)

(All papers available at <http://www.danzhang.com>; “†” indicates a supervised PhD student or postdoctoral fellow)

- [1] Annabelle Feng, Sirong Luo, and Dan Zhang. Dynamic Inventory-Pricing Control under Backorder: Demand Estimation and Policy Optimization. Forthcoming, *Manufacturing and Service Operations Management*.
- [2] Yalçın Akçay, Tamer Boyacı, and Dan Zhang. Selling with Money-Back Guarantees: The Impact on Prices, Quantities, and Retail Profitability. Forthcoming, *Production and Operations Management*.
- [3] Dan Zhang and Zhaosong Lu. 2013. Assessing the Value of Dynamic Pricing in Network Revenue Management. *INFORMS Journal on Computing*, 25(1): 102–115.
- [4] Qian Liu and Dan Zhang. 2013. Dynamic Pricing Competition with Strategic Customers under Vertical Product Differentiation. *Management Science*, 59(1): 84–101.
- [5] Weifen Zhuang†, Mehmet Gumus, and Dan Zhang. 2012. A Single-Resource Revenue Management Problem with Random Resource Consumptions. *Journal of the Operational Research Society*, 63, 1213–1227.
- [6] Adam Mersereau and Dan Zhang. 2012. Markdown Pricing with Unknown Fraction of Strategic Customers. *Manufacturing and Service Operations Management*, 14(3): 355–370. **Lead article.**
- [7] Dan Zhang. 2011. An Improved Dynamic Programming Decomposition Approach for Network Revenue Management. *Manufacturing and Service Operations Management*, 13(1): 35–52.

- [8] Dan Zhang and Daniel Adelman. 2009. An Approximate Dynamic Programming Approach to Network Revenue Management with Customer Choice. *Transportation Science*, 43(3): 381–394.
- [9] Dan Zhang and William L. Cooper. 2009. Pricing Substitutable Flights in Airline Revenue Management. *European Journal of Operational Research*, 197(3), 848–861.
- [10] Dan Zhang and Royce Kallesen. 2008. Incorporating Competitive Price Information in Revenue Management. *Journal of Revenue and Pricing Management*, 7(1): 17–26.
- [11] Dan Zhang and William L. Cooper. 2008. Managing Clearance Sales in the Presence of Strategic Customers. *Production and Operations Management*, 17(4): 416–431.
- [12] Dan Zhang and William L. Cooper. 2005. Revenue Management for Parallel Flights with Customer Choice Behavior. *Operations Research*, 53(3): 415–431.

Book Chapters

- [1] Li, Shanling, Dan Zhang, and Wenqing Zhang. 2010. A Study of Corporate Social Responsibility Activities of 12 Giant Food Companies (1980 – 2008) in Promoting Healthy Food. Book chapter in *Obesity Prevention: The Role of Brain and Society on Individual Behavior*. Academic Press.

Working Papers/Work in Progress

- [1] Dan Zhang and Thomas Vossen. 2013. An Approximate Dynamic Programming Approach to a Rolling-Horizon Appointment Scheduling Problem. Under review, *Manufacturing and Service Operations Management*.
- [2] Thomas Vossen and Dan Zhang. 2013. Reductions of Approximate Linear Programs for Network Revenue Management. Under revision for second review, *Operations Research*.
- [3] Thomas Vossen and Dan Zhang. 2013. A Dynamic Disaggregation Approach to Approximate Linear Programs for Network Revenue Management. Under revision for third review, *Production and Operations Management*.
- [4] Saied Samiedaluie†, Beste Kucukyazici, Vedat Verter, and Dan Zhang. 2013. Managing Patient Admissions in a Neurology Ward. Under revision for resubmission, *Operations Research*.
- [5] Dan Zhang and Lawrence Weatherford. 2012. Dynamic Pricing for Network Revenue Management: A New Approach and Application in the Hotel Industry. Under review, *INFORMS Journal on Computing*.
- [6] Xiao Huang†, Tamer Boyacı, Mehmet Gumus, Saibal Ray, and Dan Zhang. 2012. United We Stand, Divided We Fall: Supplier Alliances in Channel Structures under Default Risk. Under revision for second review, *Management Science*.
- [7] Xiaofeng Nie†, Tamer Boyacı, Mehmet Gumus, Saibal Ray, and Dan Zhang. 2010. Joint Bidding and Procurement Strategies under Price Volatility. Under revision for third review, *European Journal of Operational Research*.
- [8] Wenqing Zhang†, Shanling Li, Dan Zhang, and Wenhua Hou. 2012. Battling Childhood Obesity through Advertising Regulation: A Supply Chain Perspective. Under second review, *European Journal of Operational Research*.
- [9] Dan Zhang. 2008. Pricing and Capacity Management for Multi-Class Stochastic Service Systems. Working paper.
- [10] Nelson Granados, Kunsoo Han, and Dan Zhang. 2011. Demand and Revenue Impacts of the Opaque Channel: Empirical Evidence from the Airline Industry. Working paper.

- [11] Wenqing Zhang[†], Shanling Li, Dan Zhang, and Wenhua Hou. 2012. Product Variety and Pricing with Strategic Customers. Working paper.
- [12] Thomas Vossen and Dan Zhang. 2012. A Benders Decomposition Approach to Approximate Linear Programs for Network Revenue Management. Work in progress.
- [13] Chuan He and Dan Zhang. 2012. Dynamic Targeted Pricing. Work in progress.

Teaching Experience

PhD Courses

Instructor, Stochastic Dynamic Programming (PhD course), Spring 2012

MBA and Executive Courses

Instructor, Data, Models, and Decisions (MBA elective), Desautels Faculty of Management, McGill University, Fall 2008, Fall 2009, Fall 2010.

Instructor, Executive course on Revenue Management, McGill Executive Institute, McGill University.

Undergraduate Courses

Nominated for Frasca Teaching Excellence Award, Leeds School of Business, 2013

Instructor, Management of Service Operations (undergraduate elective), Leeds School of Business, University of Colorado at Boulder, Fall 2012.

Instructor, Business Statistics (undergraduate core), Leeds School of Business, University of Colorado at Boulder, Spring 2012, Fall 2012.

Instructor, Business Statistics (undergraduate core), Desautels Faculty of Management, McGill University, Fall 2007, Fall 2008, Fall 2009, Fall 2010.

Student Supervision

Co-supervisor, postdoctoral fellows

Lei Xie (McGill University), 2010–2011. Current position: Assistant Professor, Shanghai Jiao Tong University, China

Xiao Huang (McGill University), 2009–2010. Current position: Assistant Professor, Concordia University, Canada

Weifen Zhuang (McGill University), 2009–2010. Current position: Assistant Professor, Xiamen University, China

Xiaofeng Nie (McGill University), 2008–2010. Current position: Assistant Professor, Nanyang Technological University, Singapore

Co-supervisor, PhD students

Wenqing Zhang (McGill University), 2008–2011. Current position: Assistant Professor, SolBridge International School of Business, South Korea

Saied Samiedaluie (McGill University), 2009–

Jose Ramirez (University of Colorado at Boulder). 2012–

Committee member, PhD students

Subhamoy Ganguly (University of Colorado at Boulder). 2011–2013. Current position: Assistant Professor, Indian Institute of Management Udaipur, India

Paul Intrevado (McGill University). 2010–

Research Seminars/Workshops

Business School, Sichuan University, June 2013

School of Business, University of Miami, May 2013

School of Business, University of Alberta, May 2013

Leeds School of Business, University of Colorado at Boulder, Faculty summer research seminar series, June 2012

Invited speaker, Choice-based Revenue Management Conference, Georgia Institute of Technology, May 2012

Invited speaker, 2nd Annual Operations Management Research Symposium for Junior Faculty, University of North Carolina, March 2012

Leeds School of Business, University of Colorado at Boulder, Marketing Division Seminar, January 2012

Division of Economics and Business, Colorado School of Mines, November 2011

Leeds School of Business, University of Colorado at Boulder, Management Division Seminar, November 2011

College of Business, City University of Hong Kong, February 2011

Department of Industrial Engineering and Logistics Management, Hong Kong University of Science and Technology, February 2011

Invited tutorial lecture on “Dynamic Pricing in Revenue Management”, SOCCER 2010, University of Heidelberg, Germany, July 2010

GERAD, University of Montreal, Canada, March 2010

Smith School of Business, University of Maryland, February 2010

School of Management, Southwest Jiao Tong University, China, January 2008

HP Labs, Palo Alto, California, February 2011

Transat A.T. Inc., Montreal, Canada, September 2008

Employment History

2011 – Present, Assistant Professor, Management and Entrepreneurship, Leeds School of Business, University of Colorado at Boulder.

2007 – 2012, Assistant Professor of Operations Management, Desautels Faculty of Management, McGill University. *On leave, August 2011 – August 2012.*

2006 – 2007, Member of Science Group, PROS Revenue Management, Houston, Texas.

2005 – 2006, Postdoctoral fellow (Advisor: Professor Daniel Adelman), Operations Management Area, University of Chicago, Booth School of Business.

2000–2005, Research assistant for Professor William L. Cooper, Department of Industrial and Systems Engineering, University of Minnesota, Twin Cities.

1997 – 2000, Analyst/Programmer, Automobile Research Institute and Center for Computer Applications, Chang'an Automobile Corporation, Chongqing, China, 1997-2000.

Professional Services

Invited panelist on “Teaching Pricing and Revenue Management”, POMS Annual Conference, Denver, May 3–6, 2013.

2012 MSOM Meritorious Service Award.

Track co-chair for “Pricing and Revenue Management” (36 sessions in total), INFORMS 2012 Annual Meeting, Phoenix, October 14–17, 2012.

Judge, 2009 POMS College of Supply Chain Management Student Paper Competition.

Session Chair, INFORMS Annual Meetings, 2008, 2009, 2010, 2011, 2012, 2013

Attendee, INFORMS Future Academician Colloquium, Denver, October 22–23, 2004.

President, IIE Student Chapter at University of Minnesota, 2002–2004.

Participant, CIBER Doctoral Consortium on International Operations Management, Purdue University, November 20–23, 2003.

Member

INFORMS, INFORMS Revenue Management and Pricing Section, Manufacturing and Service Operations Management Society

Journal reviewer

Operations Research, Management Science, Manufacturing and Service Operations Management, Production and Operations Management, INFORMS Journal on Computing, Transportation Science, European Journal of Operational Research, Naval Research Logistics, IIE Transactions, Mathematical Programming, Decision Sciences, Journal of Operational Research Society, Mathematical Methods of Operations Research, Transportation Research Part E, International Journal of Revenue Management, Journal of Systems Science and Systems Engineering, Journal of Revenue and Pricing Management

Conference reviewer (2–3 full-length papers each)

MSOM 2011 Service SIG, MSOM 2012 Service SIG

Reviewer for NSERC grants, 2011

Internal Services

Leeds School of Business, University of Colorado Boulder

Technology committee, 2012–

Desautels Faculty of Management, McGill University

Undergraduate committee, 2007–2008

Associate director, Management Science Research Center, 2009–2011

Research committee, 2010–2011

Corporate Contacts/Consulting Experience

PODS Research LLC, Houston, Texas. Consultant on dynamic programming decomposition algorithm for network revenue management. 2012.

The Walt Disney Company, Orlando, Florida. Consultant on resort hotel pricing. 2012.

Lufthansa, Frankfurt, Germany. Consultant on network revenue management optimization based on an approach proposed in my paper “An Improved Dynamic Programming Decomposition Approach for Network Revenue Management,” 2010.

Transat A.T. Inc., Montreal, Canada. Consultant on current practice and trends in revenue management, 2008.

Research Grants

2009 – 2012, FQRSC New Researcher Grant, Models and analysis for competitive revenue management, \$39,600.

2008 – 2013, NSERC Discovery, Modeling consumer behavior in revenue management, \$85,000.

2008 – 2011, SSHRC, Integrated operational risk management in supply chains, \$129,000. (Joint grant with Saibal Ray, Tamer Boyaci, and Mehmet Gumus; share: 25%).

2007 – 2010, McGill University Startup Grant, \$60,000.

Conference Presentations

“Reductions of Approximate Linear Programs for Network Revenue Management”

6th CSAMSE Annual Conference, Peking University, June 30–July 2, 2013

POMS Annual Conference, Denver, May 3–6, 2013

“A New Approach to Hotel Pricing”

2012 INFORMS Annual Meeting, Phoenix, Arizona, October 14–17, 2012

“A Dynamic Disaggregation Approach to Approximate Linear Programs for Network Revenue Management”

2012 INFORMS Annual Meeting, Phoenix, Arizona, October 14–17, 2012

2012 INFORMS MSOM Conference, Columbia Business School, June 17–19, 2012

Second Annual Operations Management Research Symposium, UNC Kenan-Flagler Business School, March 24, 2012

“Markdown Pricing under Uncertain Strategic Customer Behavior”

INFORMS Annual Meeting, Charlotte, NC, November 13–16, 2011

“Supplier Alliances under Default Risk”

6th CSAMSE Annual Conference, Peking University, June 30–July 2, 2013

INFORMS Annual Meeting, Charlotte, NC, November 13–16, 2011

IMST, Montreal, QC July 2011

POMS Annual Meeting, Reno, NV, May 2011

INTRIM, Syracuse, NY, August 2010

OCSAMSE, Beijing, China, July 2010

POMS Annual Conference, Vancouver, BC, Canada, May 2010

POMS Annual Conference, Denver, May 3–6, 2013

“Admission Policies in a Neurological Hospital Ward”

INFORMS Annual Meeting, Charlotte, NC, November 13–16, 2011

INFORMS Healthcare Conference 2011, Montreal, Canada, June 20–22, 2011

POMS Annual Conference, Denver, May 3–6, 2013

“Dynamic Pricing Competition with Strategic Customers under Vertical Product Differentiation”

INFORMS Annual Meeting, Charlotte, NC, November 13–16, 2011

INFORMS Annual Meeting, Austin, TX, November 7–10, 2010

INFORMS RM Section Conference, Cornell University, June 16–18, 2010

INFORMS Annual Meeting, San Diego, CA, October 11–14, 2009

“Does the Opaque Channel Increase Revenues? Empirical Evidence from the Airline Industry”

INFORMS RM Section Conference, Cornell University, June 16–18, 2010

“An Improved Dynamic Programming Decomposition Approach for Network Revenue Management”

Choice-based Revenue Management Conference, Georgia Institute of Technology, May 21–22, 2012

INFORMS Annual Meeting, San Diego, CA, October 11–14, 2009

MSOM 2009 Conference, MIT, June 28–30, 2009

INFORMS RM Section Conference, Northwestern University, June 22–23, 2009

AGIFORS RM and Cargo 2009, Amsterdam, Netherlands, May 17–18, 2009

“Estimation, Pricing, and Strategic Customer Behavior”

INFORMS Annual Meeting, San Diego, CA, October 11–14, 2009

MSOM 2009 Conference, MIT, June 28–30, 2009

INFORMS Annual Meeting, Washington DC, October 12–15, 2008

“Incorporating Competitive Price Information in Revenue Management”

PROS 13th Annual RM Conference, Houston, Texas, April 22–25, 2007 (featured main track presentation)

AGIFORS RM and Cargo 2007, Jeju Island, South Korea, May 14–17, 2007

“Pricing and Capacity Management for Multi-Class Stochastic Service Systems”

MSOM 2008 Conference, University of Maryland, June 5–6, 2008.

“Price and Quantity Competition in Dynamic Revenue Management”

INFORMS Annual Meeting, Washington DC, October 12–15, 2008

INFORMS RM Section Conference, Montreal, Canada, June 18–20, 2008.

“An Approximate Dynamic Programming Approach to Network Revenue Management with Customer Choice”

INFORMS RM Section Conference, New York, June 5, 2006

INFORMS Annual Meeting, Pittsburgh, November 7, 2006

“Managing Clearance Sales in the Presence of Strategic Customers”

INFORMS Annual Meeting, San Francisco, CA, November 13, 2005

“Revenue Management for Parallel Flights with Customer Choice Behavior”

INFORMS Annual Meeting, Atlanta, October 19, 2003.

INFORMS Revenue Management and Pricing Section Conference, New York, June 5–6, 2003.

Personal Information

Male; Married with two sons; Citizen of China; Permanent resident of the United States