

DAN ZHANG

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Research Interests

Application Areas: Revenue management and pricing, supply chain management, healthcare operations

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

Academic Positions

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

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

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

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 of 56 students), Mechanical Engineering, Chongqing University, 1997

Journal Publications

(All journal papers available at www.danzhang.com)

- [1] Qian Liu and Dan Zhang. Dynamic Pricing Competition with Strategic Customers under Vertical Product Differentiation. Forthcoming, *Management Science*.
- [2] Adam Mersereau and Dan Zhang. Markdown Pricing with Unknown Fraction of Strategic Customers. Forthcoming, *Manufacturing and Service Operations Management*.
- [3] Weifen Zhuang, Mehmet Gumus, and Dan Zhang. Revenue Management with Random Resource Consumptions. Forthcoming, *Journal of the Operational Research Society*.
- [4] Dan Zhang and Zhaosong Lu. Assessing the Value of Dynamic Pricing in Network Revenue Management. Forthcoming, *INFORMS Journal on Computing*.
- [5] 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*.

- [6] Dan Zhang. 2011. An Improved Dynamic Programming Decomposition Approach for Network Revenue Management. *Manufacturing and Service Operations Management*, 13(1): 35–52.
- [7] Dan Zhang and Daniel Adelman. 2009. An Approximate Dynamic Programming Approach to Network Revenue Management with Customer Choice. *Transportation Science*, 43(3): 381–394.
- [8] Dan Zhang and William L. Cooper. 2009. Pricing Substitutable Flights in Airline Revenue Management. *European Journal of Operational Research*, 197(3), 848–861.
- [9] Dan Zhang and Royce Kallesen. 2008. Incorporating Competitive Price Information in Revenue Management. *Journal of Revenue and Pricing Management*, 7(1): 17–26.
- [10] Dan Zhang and William L. Cooper. 2008. Managing Clearance Sales in the Presence of Strategic Customers. *Production and Operations Management*, 17(4): 416–431.
- [11] Dan Zhang and William L. Cooper. 2005. Revenue Management for Parallel Flights with Customer Choice Behavior. *Operations Research*, 53(3): 415–431.

Working Papers/Work in Progress

(All completed working papers available at www.danzhang.com)

- [1] Thomas Vossen and Dan Zhang. 2012. A Dynamic Disaggregation Approach to Approximate Linear Programs for Network Revenue Management. Draft available soon.
- [2] Thomas Vossen and Dan Zhang. 2012. On Separable Piecewise Linear Approximations for Network Revenue Management. Work in progress.
- [3] Chuan He and Dan Zhang. 2012. Dynamic Targeted Pricing. Work in progress.
- [4] Dan Zhang and Lawrence Weatherford. 2012. A New Approach to Hotel Pricing. Theoretical analysis completed and data collected from a major US hotel. Numerical experiments underway.
- [5] Xiao Huang, Tamer Boyaci, Mehmet Gumus, Saibal Ray, and Dan Zhang. 2012. Supplier Alliances in Channel Structures under Default Risk. Draft available soon.
- [6] Saied Samiedaluie, Beste Kucukyazici, Vedat Verter, and Dan Zhang. 2012. Managing Hospital Beds at Montreal Neurological Hospital. Draft available soon.
- [7] Nelson Granados, Kunsoo Han, and Dan Zhang. 2011. Demand and Revenue Impacts of the Opaque Channel: Empirical Evidence from the Airline Industry. Under revision.
- [8] Sirong Luo and Dan Zhang. 2010. An Integrated Estimation-Optimization Approach for a Dynamic Joint Inventory-Pricing Problem. Under revision.
- [9] Xiaofeng Nie, Tamer Boyaci, Mehmet Gumus, Saibal Ray, and Dan Zhang. 2010. Joint Bidding and Procurement Strategies under Price Volatility. Under revision for second review, *European Journal of Operational Research*.
- [10] Dan Zhang. 2008. Pricing and Capacity Management for Multi-Class Stochastic Service Systems. Under revision.

Refereed Conference Proceedings

- [1] Adam Mersereau and Dan Zhang. Estimation, Pricing, and Strategic Customer Behavior. *MSOM 2009 Conference Proceedings*, June 28-30, 2009, Sloan School of Management, MIT.
- [2] Dan Zhang. An Improved Dynamic Programming Decomposition Approach to Network Revenue Management. *MSOM 2009 Conference Proceedings*, June 28-30, 2009, Sloan School of Management, MIT.

- [3] Dan Zhang. Pricing and Capacity Management for Multi-Class Stochastic Service Systems. *MSOM 2008 Conference Proceedings*, June 5-6, 2008, Robert H. Smith School of Business, University of Maryland.

Teaching Experience

Instructor, Management of Service Operations (undergraduate elective), Fall 2012 (scheduled)

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

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

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, Fall 2008.

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, 2010–2011. Current position: Assistant Professor, Shanghai Jiao Tong University, China

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

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

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

Co-supervisor, PhD students

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

Saied Samiedaluie, 2009–

Invited Talks

*A list of job market presentations is not included and is available upon request.

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

Invited speaker, Second Annual Operations Management Research Symposium, UNC Kenan-Flagler Business School, March 2012 (scheduled)

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

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

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

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

HP Labs, Palo Alto, California, February 2011

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

GERAD, Montreal, Canada, March 2010

Smith School of Business, University of Maryland, Washington DC, February 2010

Invited lecture on “Revenue Management: Fundamentals, Current Practice, and New Development”, Transat A.T. Inc., Montreal, QC, September 2008

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

Professional Activities/Service

Track co-chair for “Pricing and Revenue Management” (33 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, several sessions at recent INFORMS Annual Meetings and INFORMS Pricing and Revenue Management Section Conferences.

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 (performed over 60 reviews in the last four years; number of reviews for each journal in parenthesis)

Operations Research (13), *Management Science* (8), *Manufacturing and Service Operations Management* (13), *Production and Operations Management* (8), *INFORMS Journal on Computing* (1), *Transportation Science* (1), *European Journal of Operational Research* (1), *Naval Research Logistics* (7), *IIE Transactions* (2), *Mathematical Programming* (1), *Decision Sciences* (1), *Journal of Operational Research Society* (2), *Mathematical Methods of Operations Research* (2), *Transportation Research Part E* (1), *International Journal of Revenue Management* (1), *Journal of Systems Science and Systems Engineering* (1), *Journal of Revenue and Pricing Management* (2)

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

MSOM 2011 Service SIG, MSOM 2012 Service SIG

Reviewer for NSERC grants, 2011

Industry/Consulting Experience

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.

PROS Revenue Management, Houston, Texas. Scientist for multiple projects in revenue management and pricing for airline, hotel, and car rental industries, 2006-2007.

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

Research Grants

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

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).

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

Conference Presentations

“Markdown Pricing under Uncertain Strategic Customer Behavior”

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

“Supplier Alliances under Default Risk”

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 Meeting, Vancouver, BC, Canada, May 2010

“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

“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”
- 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.