

Curriculum Vitae

Amr Farahat

MIT Sloan School of Management
100 Main Street, E62-559
Cambridge MA 02142
USA

afarahat@mit.edu
+1-617-715-2642 (Office)
mitmgmtfaculty.mit.edu/afarahat/

Support Staff:
Naomi Stephen
nstephen@mit.edu
+1-617-324-7328

Education

- Ph.D. (Operations Research), Massachusetts Institute of Technology, 2004
Thesis: “Tractability Through Approximation - A Study of Two Discrete Optimization Problems”
Advisor: Cynthia Barnhart
- M.Sc. (Operational Research), Lancaster University, 1996
Thesis: “Modeling Call Duration Distributions at British Telecom”
Advisor: Robert Fildes
- Graduate Diploma (Industrial Engineering), The American University in Cairo, 1995
- B.Sc. (Mechanical Engineering), Summa Cum Laude, The American University in Cairo, 1994
Thesis: “An Integrated Municipal Solid Waste Management System for the City of Cairo”
Advisor: Salah El-Haggar

Primary Appointments

Academic

- Senior Lecturer in Operations Research and Statistics; Sloan School of Management; MIT; July 2018 – Present.
- Visiting Assistant Professor of Operations Research and Statistics; Sloan School of Management, MIT; September 2017 – January 2018
- Assistant Professor of Operations and Manufacturing Management; Olin Business School, Washington University in St. Louis; July 2011 – June 2018
- Assistant Professor of Operations Management; Johnson Graduate School of Management, Cornell University; July 2004 – June 2011

Industry

- Scientist, Unilever - Manufacturing and Supply Chain Technology Group, 1997 – 1999

Research

Primary Research Interests

- Pricing and revenue management in differentiated product markets
- Supply chain structure and performance under horizontal and vertical competition
- Game theory applications
- Optimization applications

Publications in Refereed Journals

- “On the Relationship Between Quantity Pre-Commitment and Cournot Games”, with T. Huh and H. Li. *Operations Research*. 67(1), 109-122, 2019.
[SSCI count = 1; Google Scholar citations = 4]
- “The Multi-Product Newsvendor with Customer Choice”, with J. K. Lee. *Operations Research*, 66(1), 123-136, 2018.
[SSCI count = 0; Google Scholar citations = 6]
- “On the Efficiency of Price Competition”, with G. Perakis, *Operations Research Letters*, 39(6), 414-418, 2011.
[SSCI count = 5; Google Scholar citations = 11]
- “A Comparison of Bertrand and Cournot Profits in Oligopolies with Differentiated Products”, with G. Perakis, *Operations Research*, 59(2), 507-513, 2011.
[SSCI count = 17; Google Scholar citations = 52]
- “A Nonnegative Extension of the Affine Demand Function and Equilibrium Analysis for Multiproduct Price Competition”, with G. Perakis, *Operations Research Letters*, 38(4), 280-286, 2010.
[SSCI count = 14; Google Scholar citations = 33]
- “Profit Loss in Differentiated Oligopolies”, with G. Perakis, *Operations Research Letters*, 37(1), 43-46, 2009.
[SSCI count = 17; Google Scholar citations = 32]
- “Airline Fleet Assignment with Enhanced Revenue Modeling: An Alternative Formulation and Solution Approach”, with C. Barnhart and M. Lohatepanont, *Operations Research*, 57(1), 231-244, 2009.
[SSCI count = 37; Google Scholar citations = 82]

Manuscripts in Preparation

- “The Multi-Product Extension to the Newsvendor Problem”

Doctoral Students Advised

- Maryam Biazaran, Olin Business School, Washington University in St. Louis. Topic: Operational flexibility in co-production systems under yield and demand uncertainty
- Xiaomeng Guo, Olin Business School, Washington University in St. Louis. Topic: Quality and price competition when goods are durable and consumers are strategic
- Joonkyum Lee, Johnson Graduate School of Management, Cornell University. Topic: Retail inventory planning

Masters Students Advised

- David Liszewski and Victor Jouault, MIT Sloan Masters of Business Analytics Capstone project 2021 (Assurance IQ - Improving Cross-Selling through Optimal Product Portfolios and Individualized Offers)
- Haocheng Bi and Raphael Chew, MIT Sloan Masters of Business Analytics Capstone project 2021 (Unilever - Shopper Centricity and Customer Lifetime Value)
- Mohamed Hamza Tazi Bouardi and Pierre-Henri Ramirez, MIT Sloan Masters of Business Analytics Capstone project 2020 (Comcast - Strategic Analytics)
- Hossam Abuelwefa, Olin Business School, Washington University in St. Louis. Topic: Call Center Performance Measurement using Regression and Data Envelopment Analysis Techniques. 2014

Press Coverage

- “Over- and Under- Supplying Hurts Profits” MIT Sloan Press Release, November 2017. mitsloan.mit.edu/newsroom/press-releases/Over--and-under-supplying-hurts-profits--MIT-Sloan-professor-develops-new-methodology-to-help-firms-improve-inventory-decisions/
- “A New Algorithm Helps Retailers Make Better Inventory Decisions” MIT Sloan Newsroom Article, December 2017. <http://mitsloan.mit.edu/newsroom/articles/a-new-algorithm-helps-retailers-make-better-inventory-decisions/>

Practice Articles

- “Over- And Under-Supplying Hurts Profits: A New Methodology To Help Retailers Improve Inventory Decisions” Guest column at www.retailoperationsinsights.com, January 18th, 2018.

Teaching

Primary Teaching Interests

- Undergraduate and Graduate courses in the theory, methodology, and applications of Operations Research, Statistics, and Data Analytics
- Project-based advising and mentorship
- Analytics program development and management
- Case and textbook development

MBA/MSc. Courses Taught

- Data, Models, and Decisions (MIT Sloan – 15.060); Fall 2017, Fall 2018, Fall 2019, Fall 2020
- The Analytics Edge (MIT Sloan – 15.071); Spring 2019
- Engineering Statistics and Data Science (MIT Sloan – 15.087); Summer 2020
- Critical Thinking Processes and Modeling for Effective Decision Making (Washington University in St. Louis – MGT550F); Spring 2012, Spring 2013, Spring 2014, Spring 2015, Spring 2016, Spring 2016, Spring 2017, Spring 2018
- Supply Chain Analytics – Optimization (Washington University in St. Louis – OMM500N); Fall 2013, Spring 2013, Spring 2015, Spring 2016, Spring 2017, Spring 2018
- Operations Management in the Service Industry (Washington University in St. Louis – OMM573); Spring 2014, Spring 2015, Spring 2016, Spring 2017, Spring 2018
- Statistics for Management (Cornell University – NCC501); Fall 2004, Fall 2005, Fall 2006, Fall 2007, Fall 2008, Fall 2009, Fall 2010

Ph.D. Courses Taught

- Theory and Research Methods in Inventory and Supply Chain Management (Washington University in St. Louis – OMM652); Fall 2013
- Dynamic Programming and Optimal Control (Washington University in St. Louis – OMM655); Spring 2012

Other Teaching

- Lectures in Ph.D. Proseminar in Operations Management (Cornell University); Fall 2009
- Pre-MBA Quantitative Skills (Cornell University); August 2005, 2006
- Invited lectures on Transportation and Logistics Management (Columbia IEOR); Spring 2004, 2005
- Pre-term Mathematics (MIT); August 2003

Cases

- “Business Intelligence at Narayana Health”, with Anesh Shetty
- “Supply/Distribution Chain Planning at Dartboard Corporation 2.0”, with Robert M. Freund, Sebastian Cubela, John Silberholz, and Lauren Berk
- “Flight Delays at RegionEx”, with S. Martonosi, *INFORMS Transactions on Education*, 11(3), 100-105, 2011

Teaching Articles

- “The INFORMS Case Competition – And Why We Need Analytics Teaching Cases”, with J. J. Chochran, *ORMS Today*, April 2020.

Teaching Awards

- Core Faculty Teaching Award (2008-2009) “Honoring Teaching Excellence for the professor who best fosters learning through lecture, discussion, and coursework” Johnson Graduate School of Management, Cornell
- First Place, INFORMS Case and Teaching Materials Competition (2009) for the case “RegionEx Flight Delays” co-authored with Susan Martonosi

Recent Teaching Evaluations

- MIT Sloan School of Management
(Recommend Instructor rating; averaged across sections; maximum = 5)

Course	Level	Fall 2017	Fall 2018	Spring 2019	Fall 2019	Summer 2020	Fall 2020
15.060	MBA	4.3	4.1		4.5		4.7**
15.071	MBA			4.6			
15.087	MBA/MSc					4.9*	

* Class taught remotely

** Class taught in hyflex format

- Washington University in St. Louis – Olin School of Business
(Overall average instructor rating; averaged across sections; maximum = 10)

Course	Level	Spring 2012	Spring 2013	Fall 2013	Spring 2014	Spring 2015	Spring 2016	Spring 2017
MGT562	MBA	9.13	9.08		9.04	7.53*	8.90	8.87
OMM573	MBA				9.71	9.26	9.34	9.13
OMM500N	M.Sc.		8.89	9.73		9.59	9.88	9.47
OMM655	Ph.D.	9.50						
OMM652	Ph.D.			10.00*				

*Class was co-taught (50%)

Fellowships and Scholarship Awards

- UPS Fellowship (2003 – 2004); Center for Transportation and Logistics, MIT
- Chevening Scholarship (1995 – 1996); UK Foreign and Commonwealth Office
- Graduate Merit Fellowship (1994 – 1995); School of Engineering, The American University in Cairo
- Academic Honor Awards (1992, 1993, 1994); School of Engineering, The American University in Cairo

Other Industry Experience

- Consultant, Priceline.com, 2010
- Summer Associate, McKinsey & Company, 2001
- Summer Intern, British Telecom - Monitoring, Forecasting, and Modelling Unit, 1996

Professional Service to the Field

- Chair, INFORMS Case Competition Committee, 2020
- Member, INFORMS Case Competition Committee, 2019-2021
- Member, INFORMS OR & Analytics Student Team Project Judging Committee, 2018
- Member, INFORMS Committee on Academic Programs Database, 2014-2015
- Co-organizer, 10th Annual INFORMS Revenue Management and Pricing Section Conference, Cornell, June 16-18, 2010
- Reviewer: Journal of Revenue and Pricing Management; Management Science; Manufacturing and Service Operations Management; Operations Research; Naval Research Logistics; Production and Operations Management; Transactions on Economics and Computation; Transportation Science
- Referee: POMS Supply Chain Student Paper Competition; Elwood S. Buffa Doctoral Dissertation Award

Selected Invited Talks

- “The Multi-Product Newsvendor Problem with Customer Choice”, MIT Sloan (2017), University of British Columbia (2016), MSOM (2015)
- “The Efficiency of Price and Quantity Competition”, Rutgers (2011), Washington University in St. Louis (2011)
- “A Comparison of Price and Quantity Competition in Oligopolies with Differentiated Products”, University of North Carolina (2010)
- “Managing the Cornell Store’s Textbook Retail Business”, Consortium for Operational Excellence in Retailing (2010)
- “The Newsvendor Problem with Customer-Driven Substitution”, MIT (2010)

- “Price Competition Among Multiproduct Firms”, Cornell IEOR (2010)

Personal

- Birthplace: Giza, Egypt
- Citizenship: United States