RAMAN RANDHAWA

Charles L. and Ramona I. Hilliard Professor of Business Administration
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RESEARCH INTERESTS

Professor Randhawa's research addresses how AI and data-driven decision models shape access, delay, and outcomes in large-scale service systems from healthcare diagnostics to justice administration. His work spans operations management, machine learning, and decision science, with focus areas including queueing theory, pricing and revenue management, and information design. His research appears in *Management Science*, *Operations Research*, *Manufacturing & Service Operations Management*, *The Accounting Review*, and *JAMA Network Open*, and has earned multiple awards, including the 2025 MSOM Service SIG Best Paper Award. He currently serves as an Area Editor for Operations Research .

ENTREPRENEURSHIP & LEADERSHIP

Randhawa served as Senior Vice Dean for Academic Programs at USC Marshall (2023–2025), leading curricular innovation across programs serving 7,000+ students, and conceived USC's pioneering AI for Business joint undergraduate degree program. He co-founded Pathomiq, developing AI-powered platforms for cancer diagnostics and personalized medicine, and advises Turiyam.ai on next-generation compute infrastructure.

EDUCATION

Ph.D., Business (Operations, Information, and Technology) Stanford University, 2006
M.S., Statistics Stanford University, 2005
B.Tech., Manufacturing Science and Engineering Indian Institute of Technology Delhi, 2001

ACADEMIC POSITIONS

Charles L. and Ramona I. Hilliard Professor of Business Administration 2023–present
Marshall School of Business, University of Southern California
Professor of Data Sciences and Operations 2018–present
Marshall School of Business, University of Southern California
Associate Professor 2012–2018
Marshall School of Business, University of Southern California
Assistant Professor 2009–2012
Marshall School of Business, University of Southern California
Visiting Assistant Professor Summer 2012
Tuck School of Business, Dartmouth College
Assistant Professor 2006–2009
McCombs School of Business, University of Texas at Austin

Startup & Industry Experience

Pathomiq Inc. 2015–present

Co-Founder and Chief Data Scientist (2015–2020); Scientific Advisory Board (2020–present)

AI-driven personalized medicine and drug development; phenotype atlas across cancer pathology

Turiyam.ai Advisor

Compute platform accelerating intelligence at reduced cost

Architecture inspired by digital public infrastructure (Aadhaar, UPI)

Administrative Leadership

Dean's Office, Marshall School of Business **2020–2025**

Senior Vice Dean for Academic Programs 2023–2025

Lead all undergraduate, MS, and MBA programs serving 7,000+ students; oversee curriculum innovation, faculty coordination, and program quality across Marshall's degree portfolio

Vice Dean for Undergraduate Programs 2020–2025

Directed undergraduate business education for 4,000+ students; drove program enhancements and student success initiatives during pandemic transition and recovery

Department Chair, Data Sciences and Operations 2018–2020

Led 40+ faculty department; managed research strategy, faculty recruitment, and curricular development in rapidly evolving analytics field

Curricular Innovation & Institutional Design

Conceived and launched USC's inaugural 4-year undergraduate joint degrees AI for Business (with Engineering), Business of Cinematic Arts, Real Estate Finance & Development (with Public Policy), and Business of Innovation (with Iovine & Young Academy, 2025)establishing cross-disciplinary pathways integrating business with technical and creative fields. Expanded graduate offerings through a joint JD/MBA with Gould School of Law and new MBA+MS dual-degree tracks.

University Service

- University Committee on Appointment and Tenure (2024–2026)
- Provost Search Committee (2023)
- Co-Lead, Faculty Generative AI Education Initiative (2023–present)
- Marshall Faculty Council President (2017–2018)
- USC Academic Senate, Senator (2017–2018)
- Graduate Instruction Committee, Member (2012–2015)
- Departmental APR Committee, Member (2015–2016)

SELECTED CONTRIBUTIONS

- Cardon, P. and Randhawa, R.S. "Business Schools as Learning Organizations in the Age of AI." *Handbook of AI and Strategy* (Csaszar & Jia, eds.), Edward Elgar Publishing, forthcoming, 2025. (An expanded version is here: Randhawa, R.S., et al. "Embracing AI in Business Education." *SSRN*, 2024.

- Bakshi, N., Kim, J., and Randhawa, R.S. "Service Operations for Justice-On-Time: A Data-Driven Queueing Approach." *Manufacturing and Service Operations Management*, 27(1): 305–321, 2024.
  2025 MSOM Service SIG Best Paper Award

- Drakopoulos, K. and Randhawa, R.S. "Why Perfect Tests May Not be Worth Waiting For: Information as a Commodity." *Management Science* (Fast Track), 67(11): 6678–6693, 2021.

- Drakopoulos, K., Jain, S., and Randhawa, R.S. "Persuading Customers to Buy Early: The Value of Personalized Information Provisioning." *Management Science*, 67(2): 828–853, 2020.

- Bassamboo, A. and Randhawa, R.S. "Scheduling Homogeneous Impatient Customers." *Management Science*, 62(7): 2129–2147, 2016.
  2019 Service Management SIG Prize Finalist

- Huang, W., Randhawa, R.S., Jain, P., Iczkowski, K.A., et al. "Development and Validation of an Artificial Intelligence-Powered Platform for Prostate Cancer Grading and Quantification." *JAMA Network Open*, 4(11):e2132554, 2021.

- Golrezaei, N., Nazerzadeh, H., and Randhawa, R.S. "Dynamic Pricing for Heterogeneous Time-Sensitive Customers." *Manufacturing and Service Operations Management*, 22(3): 562–581, 2020.
  2019 INFORMS Best Service Science Paper Award Finalist

- Corona, C. and Randhawa, R.S. "The Value of Confession: Admitting Mistakes to Build Reputation." *The Accounting Review*, 93(3): 133–161, 2017.

- Bassamboo, A. and Randhawa, R.S. "On the Accuracy of Fluid Models for Capacity Sizing in Queueing Systems with Impatient Customers." *Operations Research*, 58(5): 1398–1413, 2010.
  Third Place, INFORMS Junior Faculty Interest Group Paper Competition, 2010

PUBLICATIONS

Peer-Reviewed Journal Articles

1. Bakshi, N., Kim, J., and Randhawa, R.S. "Service Operations for Justice-On-Time: A Data-Driven Queueing Approach." *Manufacturing and Service Operations Management*, 27(1): 305–321, 2024. **[2025 MSOM Service SIG Best Paper Award]**

2. Krishnamurthy, S., Jain, P., Tripathy, D., et al. "Predicting Response of Triple-Negative Breast Cancer to Neoadjuvant Chemotherapy Using a Deep CNN-Based AI Tool." *JCO Clinical Cancer Informatics*, vol. 7, 2023.

3. Bassamboo, A., Randhawa, R.S., and Wu, C. "Optimally Scheduling Heterogeneous Impatient Customers." *Manufacturing and Service Operations Management*, 25(3): 1066–1080, 2023.

4. Huang, W., Randhawa, R.S., Jain, P., et al. "A Novel AI-Powered Method for Prediction of Early Recurrence of Prostate Cancer After Prostatectomy." *JCO Clinical Cancer Informatics*, vol. 6, 2022.

5. Drakopoulos, K. and Randhawa, R.S. "Why Perfect Tests May Not be Worth Waiting For: Information as a Commodity." *Management Science* (Fast Track), 67(11): 6678–6693, 2021.

6. Huang, W., Randhawa, R.S., Jain, P., Iczkowski, K.A., et al. "Development and Validation of an Artificial Intelligence-Powered Platform for Prostate Cancer Grading and Quantification." *JAMA Network Open*, 4(11):e2132554, 2021.

7. Drakopoulos, K., Jain, S., and Randhawa, R.S. "Persuading Customers to Buy Early: The Value of Personalized Information Provisioning." *Management Science*, 67(2): 828–853, 2020.

8. Golrezaei, N., Nazerzadeh, H., and Randhawa, R.S. "Dynamic Pricing for Heterogeneous Time-Sensitive Customers." *Manufacturing and Service Operations Management*, 22(3): 562–581, 2020.

9. Kim, J., Randhawa, R.S., and Ward, A.R. "Dynamic Scheduling in a Many-Server Multi-Class System: The Role of Customer Impatience in Large Systems." *Manufacturing and Service Operations Management*, 20(2): 285–301, 2018.

10. Nazerzadeh, H. and Randhawa, R.S. "Near-Optimality of Coarse Service Grades for Customer Differentiation in Queueing Systems." *Production and Operations Management*, 27(3): 578–595, 2018.

11. Corona, C. and Randhawa, R.S. "The Value of Confession: Admitting Mistakes to Build Reputation." *The Accounting Review*, 93(3): 133–161, 2017.

12. Kim, J. and Randhawa, R.S. "The Value of Dynamic Pricing in Large Queueing Systems." *Operations Research*, 66(2): 409–425, 2017.

13. Randhawa, R.S. "The Optimality Gap of Asymptotically-derived Prescriptions with Applications to Queueing Systems." *Queueing Systems: Theory and Applications*, 83: 131–155, 2016.

14. Bassamboo, A. and Randhawa, R.S. "Scheduling Homogeneous Impatient Customers." *Management Science*, 62(7): 2129–2147, 2016.

15. Haviv, M. and Randhawa, R.S. "Pricing in Queues without Demand Information." *Manufacturing and Service Operations Management*, 16(3): 401–411, 2014.

16. Gilbert, S., Randhawa, R.S., and Sun, H. "Optimal Per-Use Rentals and Sales of Durable Products and Their Distinct Roles in Price Discrimination." *Production and Operations Management*, 23(3): 393–404, 2014.

17. Bassamboo, A., Chu, L.Y., and Randhawa, R.S. "Designing Flexible Systems Using a New Notion of Supermodularity." *Operations Research Letters*, 41(1): 107–111, 2013.

18. Randhawa, R.S. "Accuracy of Fluid Approximations for Queueing Systems with Congestion-Sensitive Demand and Implications for Capacity Sizing." *Operations Research Letters*, 41(1): 27–31, 2013.

19. Bassamboo, A., Randhawa, R.S., and Van Mieghem, J. "A Little Flexibility is All You Need: On the Value of Flexible Resources in Queueing Systems." *Operations Research*, 60(6): 1423–1435, 2012.

20. Bassamboo, A., Randhawa, R.S., and Zeevi, A. "Capacity Sizing under Parameter Uncertainty: Safety Staffing Principles Revisited." *Management Science*, 56(10): 1668–1686, 2010.

21. Bassamboo, A. and Randhawa, R.S. "On the Accuracy of Fluid Models for Capacity Sizing in Queueing Systems with Impatient Customers." *Operations Research*, 58(5): 1398–1413, 2010. [Third Place, INFORMS JFIG Competition]

22. Bassamboo, A., Randhawa, R.S., and Van Mieghem, J. "Optimal Flexibility Configurations in Newsvendor Networks: Going beyond Chaining and Pairing." *Management Science*, 56(8): 1285–1303, 2010.

23. Corona, C. and Randhawa, R.S. "The Auditor's Slippery Slope: An Analysis of Reputational Incentives." *Management Science*, 56(6): 924–937, 2010.

24. Kumar, S. and Randhawa, R.S. "Exploiting Market Size in Service Systems." *Manufacturing and Service Operations Management*, 12(3): 511–526, 2010.

25. Bassamboo, A., Kumar, S., and Randhawa, R.S. "Dynamics of New Product Introduction in Closed Rental Systems." *Operations Research*, 57(6): 1347–1359, 2009.

26. Randhawa, R.S. and Kumar, S. "Multi-Server Loss Systems with Subscribers." *Mathematics of Operations Research*, 34(1): 142–179, 2009.

27. Randhawa, R.S. and Kumar, S. "Usage Restriction and Subscription Services: Operational Benefits with Rational Users." *Manufacturing and Service Operations Management*, 10(3): 429–447, 2008.

28. Randhawa, R.S. and Juneja, S. "Combining Importance Sampling and Temporal Difference Control Variates to Simulate Markov Chains." *ACM Transactions on Modeling and Computer Simulation*, 14(1): 1–30, 2004.

Peer-Reviewed Conference Proceedings

29. Randhawa, R.S., Modi, A., Jain, P., and Warier, P. "Improving Boundary Classification for Brain Tumor Segmentation and Longitudinal Disease Progression." BrainLes 2016, LNCS vol. 10154, Springer, 2016.

30. Garg, R., Randhawa, R.S., Saran, H., and Singh, M. "A SLA Framework for QoS Provisioning and Dynamic Capacity Allocation." IEEE IWQoS, 129–137, 2002.

31. Randhawa, R.S. and Juneja, S. "Simulating Rare Events by Combining Temporal Difference Methods and Importance Sampling." ReSim/COP, Madrid, 2002.

Working Papers

32. Randhawa, R.S., et al. "Embracing AI in Business Education." *SSRN*, 2024.

33. Mulvany, J. and Randhawa, R.S. "Fair Scheduling of Heterogeneous Customer Populations."

34. Bassamboo, A., Ghosh, A., and Randhawa, R.S. "The Value of Simple Menus with Price and Delay Sensitive Customers."

35. Drakopoulos, K. and Randhawa, R.S. "Group Experimentation: Role of Information Leaders."

36. Randhawa, R.S., Jain, P., and Madan, G. "Topic Modeling Using Distributed Word Embeddings."

Book Chapters

37. Cardon, P. and Randhawa, R.S. "Business Schools as Learning Organizations in the Age of AI." *Handbook of AI and Strategy* (Csaszar & Jia, eds.), Edward Elgar Publishing, forthcoming, 2025.

38. Randhawa, R.S. "Retail Analytics." *Essentials of Business Analytics*, Springer, 599–621, 2019.

HONORS & AWARDS

- **2025 MSOM Service SIG Best Paper Award** for "Service Operations for Justice-On-Time"
- President of India's Gold Medal, IIT Delhi (highest GPA among $\sim$500 graduates)
- R. Vibhakar Memorial Medal, IIT Delhi (best student, junior year)
- Dean's Award for Research Excellence, Marshall School of Business, 2012
- Dean's Award for Community, Marshall School of Business, 2018
- INFORMS Best Service Science Paper Award Finalist, 2019
- MSOM Service Management SIG Prize Finalist, 2019
- Third Place, INFORMS JFIG Paper Competition, 2010
- Multiple Meritorious Service Awards: *Management Science*, *Operations Research*, *MSOM*

EDITORIAL SERVICE

- Area Editor, *Operations Research* (2022–present)
- Associate Editor, *Management Science* (2014–2022)
- Associate Editor, *Operations Research* (2012–2022)
- Guest Associate Editor, *MSOM* (2018)
- Senior Editor, *Production and Operations Management* (2009–2015)

INVITED SEMINARS

- Graduate School of Business, Stanford University (2025, 2018, 2009, 2008)
- Purdue University (2024)
- University of Chicago Booth School of Business (2024, 2012, 2006)
- Kelley School of Business, Indiana University (2021)
- Indian School of Business (2020)
- Tepper School of Business, Carnegie Mellon University (2019)

- London Business School (2018, 2012)
- University College London (2018)
- Ross School of Business, University of Michigan (2018)
- Industrial and Systems Engineering, University of Minnesota (2017)
- Graduate School of Business, Columbia University (2016, 2009)
- Fuqua School of Business, Duke University (2016)
- Kellogg School of Management, Northwestern University (2014, 2008)
- UC Berkeley Haas School of Business (2013)
- Mostly OM Workshop, Tsinghua University, Beijing (2013)
- INSEAD, Fontainebleau (2012)
- Tuck School of Management, Dartmouth College (2011)
- Rady School of Management, UC San Diego (2010)
- Tata Institute for Fundamental Research, India (2010)
- Stanford University, Management Science and Engineering (2009)
- UCLA Anderson School (2009)
- Wharton School, University of Pennsylvania (2009)
- Marshall School, University of Southern California (2009, 2006)
- Stern School, New York University (2008, 2006)
- Johnson School, Cornell University (2006)
- Industrial and Systems Engineering, Georgia Tech (2006)
- McCombs School, UT Austin (2006)
- Industrial Engineering and Operations Research, UC Berkeley (2006)

SELECTED MEDIA & IMPACT

- AI Leadership at USC Marshall featured in **NASDAQ** and **Bloomberg**
- Creator of educational decision-making games deployed in operations and analytics courses at universities globally

PH.D. STUDENTS SUPERVISED

- Justin Mulvany, 2024 (Energy Analyst, Resource Energy; advisor)
- Shobhit Jain, 2021 (Senior Data Scientist, Target; advisor)
- Erhun Ozkan, 2018 (Assistant Professor, Koç University; advisor)
- Negin Golrezaei, 2017 (Associate Professor, MIT Sloan; committee member)
- Jeunghyun Kim, 2016 (Assistant Professor, Korea University; advisor)
- Dongyuan Zhan, 2015 (Associate Professor, University College London; committee member)
- Guangwen Kong, 2013 (Associate Professor, University of Minnesota; committee member)

- Kai Chen, 2013 (committee member)
- Seung Beom Kim, 2013 (committee member)