1337 Edvalson St. Ogden, UT 84408

Objective: To positively impact the world through research, teaching, leadership, and service

Research Interests:

- Bridge the gap between foundational economics / business models and modern black-box analytics
- Develop novel management/decision-science-flavored machine-learning-based methodology capable of approximating problems including: static (and dynamic) deterministic (and stochastic) optimization, non-cooperative static and dynamic games, and combinatorial optimization
- Applications, field experiments, implementations, and continued development of my novel prescriptive analytics approaches

Education:

- PhD, Operations Management; Northwestern Kellogg School of Mgmt.; 2011-16 Advisors: Achal Bassamboo and Gad Allon GMAT: 780
- MS, Chemical Engineering; Univ. of Texas Austin; 2004 2007
- BS, Chemical Engineering; BYU; 1998 2004

Works in Progress:

- 1. Barlow, E., & Neve, B. Al-driven product recommender with unobserved stockouts (nearing completion, expected to submit to POMS 1Q24).
- 2. Barlow. The Machine Transform: Applications in Decision-Making AI (in progress).
- 3. Barlow. Hybrid Estimation: Bridging the Gap Between Foundations and the Black Box (concept phase).
- 4. Barlow. Case: Comprehensive Iterative Case in Small Data (nearing submission, expected to submit to ITED summer 2024).
- 5. Barlow, E. Go West? A Case of Expanding Political Consulting Services. Submitted to the Journal of Business Cases and Applications in Dec. 2023.
- 6. Barlow, E. Fashion's Cutting Edge: Predicting New Product Success. Submitted to the Mountain Plains Journal of Business and Technology October 2023.

Publications:

Business Analytics & AI Methodological Research:

7. Song, S., Barlow, E., & Sun, J. (2023). Exploring Topics and Trends on Pedagogical Research: Comparative Analysis. *Asia-Pacific Journal of Business & Commerce*, *15*(3), 138-156. https://doi.org/10.35183/ajbc.2023.11.15.3.138

Analytical Game Theoretic Modeling Research:

- 8. Barlow, Allon, Bassamboo. The autonomous flexible labor force. Manage Decis Econ. 2021; 42: 516–527. https://doi.org/10.1002/mde.3251
- 9. Barlow, Allon, Bassamboo. Worker poaching in a supply chain: Enemy from within? *Managerial and Decision Econ*. 2020; 41: 695-709. https://doi.org/10.1002/mde.3130.

Pedagogy Research / Teaching Briefs / Cases

- 10. Schvaneveldt, Giraud-Carrier, Barlow. Experiential SCM Education in the COVID Era. (on hold)
- 11. Barlow, Schvaneveldt, Song. Scavenger Hunt for Errors in the Stages of Data Analytics Projects: The COVID Era. (on hold)

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12. Barlow, E. (2023). Integer Linear Programming: Spreadsheet Solver Excellence Without Excel. INFORMS Transactions on Education. Published online Sep. 11, 2023. https://doi.org/10.1287/ited.2022.0068.

Industry Research Published without Peer Review

13. Giraud-Carrier, F., & Barlow, E. (2022). Coal-to-Carbon-Fiber Business Case Analysis Report. Available at SSRN 4233459

Pharmaceutical Process R&D Research:

- 14. Lobben, Barlow, et al. Control Strategy for the Manufacture of Brivanib Alaninate, a Novel Pyrrolotriazine VEGFR/FGFR Inhibitor. *Organic Process Research and Development* (forthcoming)
- 15. Broxer, Barlow, et al. The Development of a Robust Process for a CRF1 Receptor Antagonist. *Organic Process Research and Development* **2011**, *15*(2), 343

Academic Science & Engineering Research:

- 16. McClure, Barlow, et al. Effect of Dilute Nitric Acid on Crystallization and Fracture of Amorphous Solid Water Films. *Journal of Physical Chemistry C* **2007**, *111*, 10438
- 17. McClure, Barlow, et al. Transport in Amorphous Solid Water Films: Implications for Self-Diffusivity. Journal of Physical Chemistry B 2006, 110, 17987
- 18. Goodman, Barlow, et al. Computational Model of Device-Induced Thrombosis and Thromboembolism. *Annals of Biomedical Engineering* **2005**, *33*, 780
- 19. Hunsaker, Barlow, et al. Renewable transportation fuels from biomass and black liquor. *Science in Thermal and Chemical Biomass Conversion, CPL Press*, **2006**, *Vol. 2*

Conference Presentations:

- Barlow. A Novel, Scalable Machine Learning Task: Applications to Goal AI, Prescriptive Analytics, and Game Theory. Kellogg Operations 2018, INFORMS 2018-19, DSI 2018
- Barlow, Allon, Bassamboo. Worker Poaching in Supply Chains: Enemy from Within? MSOM 2014-15, INFORMS 2013-18
- Barlow, Allon, Bassamboo. Flexible Autonomous Workers. INFORMS 2015, 2017-18; POMS 2018
- Barlow, Neve. Al-driven product recommendations with unobserved stockouts. To be presented at POMS 2024.

Teaching Experience:

- Core Operations and Supply Chain Management Course, Fall 2016 Spring 2021
- Spreadsheet Modeling for Prescriptive Analytics, Fall 2016 present
- Operations and Supply Chain Management Industry Projects, Spring 2018
- Business Analytics with Python, Fall 2022 present

University and Professional Service:

- College Strategic Initiatives Office Committee chair (Spring 2023 present)
- Faculty advisor for supply chain management student club and co-advisor for Innovators Club
- Session chair: INFORMS 2018 (Data Science and Artificial Intelligence)
- Advised student team for entrepreneurship competitions (seed fund, business plan) based on my own product concepts
- College Curriculum Committee (streamlined math requirements)
- College Assurance of Learning Committee

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- Collaborated with University Office of Institutional Effectiveness on analytics-based insight into concurrent enrollment student conversion
- Partner board projects (student-led in collaboration with partner board representatives)

Work Experience:

- Research Scientist; Bristol-Myers Squibb; 2007 2011
 - Cancer drug candidate: process development; quality control standards and strategies; pilot plant execution; commercial production launch; and supplier selection, validation, and production oversight
 - o Improved process greenness, waste management, yield, safety, cycle time, and quality
 - o Organization involvement: Lean Six Sigma Kaizen team, stats team, research training

Community Involvement and Service:

- Board of Directors for Weber Smiles member
- Developed business plan for novel uses of coal to provide assistance to coal communities
- Regular participant in community business organizations and meetings
- Provide frequent volunteer business consulting services
- Provided self-improvement courses, youth outreach programs, substance abuse programs, and English courses in St. Petersburg, Russia; Dec. 1999 – Sept. 2001
- Contribute to and participate in programs to combat hunger

Languages:

English: native Russian: near fluent Spanish: good Finnish: novice