William S. Lovejoy
Raymond T. Perring Family Professor of Business Administration
Professor of Technology and Operations
Professor of Art & Design
Ross School of Business, University of Michigan
701 Tappan, Ann Arbor, MI 48109-1234
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Education

Doctor of Philosophy (Operations Research and Marine Studies), University of Delaware, Newark, Delaware; December, 1983.
Master of Engineering (Nuclear Engineering), Cornell University, Ithaca, New York; June, 1974.
Bachelor of Science (Industrial Engineering/Operations Research), Cornell University, Ithaca, New York; June 1973.

Employment

September 2008-present: Raymond T. Perring Family Professor of Business Administration and Professor of Operations and Management Science, Ross School of Business, University of Michigan;
Professor of Art and Design, School of Art and Design, University of Michigan.

September 2000-2008: Raymond T. Perring Family Professor of Business Administration, and Professor and Chair of Operations and Management Science, University of Michigan Ross School of Business.

September 2001 - August 2002: Visiting Professor of Technology Management, INSEAD, Fontainebleau, France.

September 1995- September 2000: John Psarouthakis Research Professor in Manufacturing Management, and Professor and Chair of Operations Management, University of Michigan Business School

September 1994- September 1995: Professor of Operations Management, University of Michigan Business School.

June 1991 - September 1994: Associate Professor of Operations, Information, and Technology; Graduate School of Business, Stanford University.

July 1987 - June 1991: Assistant Professor of Decision Sciences, Graduate School of Business, Stanford University.

September 1984 - June 1987: Assistant Professor of Management Science, College of Management, Georgia Institute of Technology.

August 1979- September 1983: Research Assistant, Sea Grant project RE/3, College of Marine Studies, University of Delaware

April 1977 - August 1977: Operations Research Analyst, National Marine Fisheries Service, Honolulu Laboratory, Hawaii.

October 1974- March 1977: Lead Engineer, Probabilistic Design Project, General Electric Fast Breeder Reactor Dept., Sunnyvale, California

Awards and Honors

Spirit of Detroit Award presented by the Detroit City Council for work in the Fitzgerald and College Core neighborhoods, February 2018

Fellow of the Production and Operations Management Society, 2011

Ross School of Business Core Award for contributions to the research culture 2010

Andy Andrews Distinguished Faculty Service Award, Ross School of Business 2009

Provost's Teaching Innovation Award, University of Michigan 2009

Businessweek recognition of Integrated Product Development as one of the top design courses in the country, multiple years.

Victor Bernard Teaching Leadership Award, Ross School of Business, 2006.

MBA Teaching Excellence Award, Michigan Business School 1999-2000.

Operations Research Associate Editor Meritorious Service Award, 1999.

Tauber Manufacturing Institute Student Advisory Board teaching award, 1997.

Tauber Manufacturing Institute Faculty Fellow, three year appointment 1995-1998.

Businessweek magazine Outstanding Professor multiple years.

Emerson Electric Faculty Fellow for 1990-1991 and 1992-1993, Stanford University Graduate School of Business

Stanford Integrated Manufacturing Association course development grant to develop course in integrated design for manufacturing and marketability, 1990 - 1991.

Core Professor of the Year. Georgia Institute of Technology College of Management, 1987.

University of Delaware Allan P. Colburn award for the outstanding dissertation in engineering and mathematical sciences, 1983.

Publications in refereed journals

Kagan, E., S. Leider and W.S. Lovejoy. Ideation–Execution Transition in Product Development: An Experimental Analysis. Accepted to appear in Management Science, 2016.

Leider, S. and W. Lovejoy. Bargaining in Supply Chains. Management Science 62(10), 2016, 3039-3038.

Lovejoy, W.S. and J. Desmond. Little's Law Flow Analysis of Observation Unit Impact and Sizing. *Academic Emergency Medicine*, 18(21), February 2011, 183-189.

Lovejoy, W.S. Bargaining Chains. *Management Science* 56(12), 2010, 2282-2301.

Lovejoy, W.S. and A. Sinha. Efficient Structures for Innovative Social Networks. *Management Science* 56(7), 2010, 1127-1145.

Kim, C. W. Lovejoy, M. Paulsen, R. Chang and S. Flanders. Hospitalist Time Usage and Cyclicality: Opportunities to Improve Efficiency. *J. Hosp Med*. 5(6), July/Aug 2010, 329-334.

Lovejoy, W.S. Optimal Mechanisms with Finite Agent Types. *Management Science* 52(5), 2006, 788-803.

Chopra, S., W. Lovejoy and C. Yano. Five Decades of Operations Management and the Prospects Ahead. *Management Science* 50, 1, 2004, 8-14.

Lovejoy, W. and C. Loch. Minimal and Maximal Characteristic Path Lengths in Connected Sociomatrices. *Social Networks* 25/4, 2003, 333-347.

Lovejoy, W. and Y. Li. Hospital Operating Room Capacity Expansion. *Management Science* 48, 2002, 1369-1387.

Lovejoy, W. and Srinivasan, V. Ten Years Experience Teaching a Multi-Disciplinary Product Development Course. *Journal of Product Innovation Management* 19, 2002, 32-45.

Carr, S. and W. Lovejoy. The Inverse Newsvendor Problem: Choosing an Optimal Demand Portfolio for Capacitated Resources. *Management Science* 46, 2000, 912-927.

Lovejoy, W. and K. Sethuraman. Congestion and Complexity Costs in a Plant with Fixed Resources that Strives to Make Schedule. *Manufacturing and Services Operations Management* 2, 2000, 221-239.

Tsay, A. and W.S. Lovejoy. Supply Chain Control with Quantity Flexibility. *Manufacturing and Services Operations Management*. 1, 1999, 89-111.

Lovejoy, W.S. Integrated Operations: A Proposal for Operations Management Teaching and Research, *Production and Operations Management* 7, 1998, 106-124.

Srinivasan, V., W.S. Lovejoy and D. Beach. Integrated Product Design for Marketability and Manufacturing, *Journal of Marketing Research* 34, 1997, 154-163.

Hu, C., W.S. Lovejoy and S. Shafer. Comparison of some Suboptimal Control Policies in Medical Drug Therapy. *Operations Research* 44, 1996, 696-709.

Lovejoy, W.S. and S. Whang. Response Time Design in Integrated Order Processing/Production Systems, *Operations Research* 43, 1995, 851-861.

Hu, C., W. Lovejoy and S. Shafer. An Efficient Control Strategy for Dosage Regimens, *Journal of Pharmacokinetics and Biopharmaceutics* 22, 1994, 73-94.

Hu, C., W. Lovejoy and S. Shafer. Comparison of some Control Strategies for 3-compartment PK/PD Models, *Journal of Pharmacokinetics and Biopharmaceutics* 22, 1994, 525-550.

Lovejoy, W.S. Suboptimal Policies, with Bounds, for Parameter Adaptive Decision Processes. *Operations Research* 41, 1993, 583-599.

Lovejoy, W.S. Stopped Myopic Policies in Some Inventory Models with Generalized Demand Distributions. *Management Science* 38, 1992, 688-707.

Lovejoy, W.S. Computationally Feasible Bounds for Partially Observed Markov Decision Processes. *Operations Research* 39, 1991, 162-175.

Lovejoy, W.S. A Survey of Algorithmic Methods for Partially Observed Markov Decision Processes. *Annals of Operations Research*, 28, 1991, 47-66.

Lovejoy, W.S. An Approximate Algorithm, with Bounds, for Composite-State Partially Observed Markov Decision Processes. *Transactions of the 29th IEEE Conference on Decision and Control*, December 1990, 1344-1348.

Lovejoy, W.S. Myopic Policies for Some Inventory Models with Uncertain Demand Distributions. *Management Science* 36, 1990, 724-738.

Lovejoy, W.S. The Effect of Stochasticity on Optimal Harvesting Strategies in Some Lumped-parameter Fishery Models. *Canadian Journal of Fisheries and Aquatic Sciences* 45, 1988, 1789-1800.

Lovejoy W.S. On the Convexity of Policy Regions in Partially Observed Systems. *Operations Research*. 35, 1987, 619-621.

Lovejoy, W.S. Some Monotonicity Results for Partially Observed Markov Decision Processes. *Operations Research* 35, 1987, 736-743.

Lovejoy, W.S. Ordered Solutions for Dynamic Programs. *Mathematics of Operations Research* 12, 1987, 269-276.

Lovejoy, W.S. Policy Bounds for Markov Decision Processes.*Operations Research* 34, 1986, 630-637.

Lovejoy, W.S. Bounds on the Optimal Age-at-first-capture for Stochastic, Age-structured fisheries. *Canadian Journal of Fisheries and Aquatic Sciences* 43, 1986, 101-107.

Lovejoy, W.S. Decision Problems in Marine Fisheries. *Transactions of the 23rd IEEE Conference on Decision and Control*, December 1984.

Peck, S.O. and W.S. Lovejoy. A Probabilistic Design Method for LMFBR Fuel Rods. *Transactions of the 4th International Conference on Structural Mechanics in Reactor Technology*, August 1977.

Lovejoy, W.S. and S.K. Evans. A Crack Healing Correlation to Predict the Recovery of Fracture Strength in LMFBR Fuel. *Transactions of the American Nuclear Society Conference in Toronto, Canada*, 1976.

Books

Hopp, W. and W. Lovejoy. Hospital Operations: Principles of High Efficiency Health Care. Financial Times Press, 2013.

Chapters in books

Lovejoy, W.S. How Many Decisions Should You Automate? In *Mastering Strategy*, T. Dickson (ed.), published by the Financial Times and Prentice Hall, 2000.

Lovejoy, W.S. Rationalizing the Design Process, *Management of Design: Engineering and Management Perspectives*, S. Dasu and C. Eastman (eds), Kluwer Academic Publishers, Boston 1994.

Lovejoy, W.S. A Review of Policy Bounding Techniques in Fisheries Management, *Systems and Management Science by Extremal Methods*, F. Phillips and J. Rousseau (eds), Kluwer Academic Publishers, Boston, 1992.

Unrefereed publications

Lovejoy, W.S. and A. Perigo. Launching a Niche Master's Program. 2014.

Lovejoy, W.S. Conversations with Supply Chain Managers. University of Michigan Ross School of Business paper No. 1145, 2010.

Lovejoy, W.S. Bargaining Models in Supply Chains. *POMS Chronicle* 17(1), 2010, 16-19.

Lovejoy, W. S. How Many Decisions Should you Automate? *Financial Times* Mastering Strategy series, December 6, 1999. Financial Times, London.

Lovejoy, W.S. Integrated Design for Manufacturing and Marketability. *Design Management Journal* 3, summer 1992, 41-46.

Working papers

Bargaining in Supply Chains (Long Version) by S. Leider and W. Lovejoy. University of Michigan Ross School of Business and SSRN Working Paper 1259, 2014.

Ideation versus execution in creative tasks. Experimental paper with Stephen Leider and Ph.D. student Evgeny Kagan. In preparation.

Equity splits in entrepreneurial teams. Experimental paper with Stephen Leider and Ph.D. student Evgeny Kagan. In preparation.

The Content of Negotiations in Supply Chains. Experimental paper co-authored with S. Leider. In preparation.

Entrepreneurial market research: when hypotheses outnumber samples. In preparation.

Conversations with Supply Chain Managers. University of Michigan Ross School of Business and SSRN Working Paper 1145, 2010.

Bargaining Chains – Long Version. University of Michigan Ross School of Business Working Paper 1146, 2010.

Carr, S., I. Duenyas and W. Lovejoy. The Effect of Demand and Capacity Uncertainty Under Competition. UCLA Anderson School and Michigan Business School, September 1999.

Lovejoy, W.S. Policy Regions without Lattice Structure. Georgia Institute of Technology College of Management Working Paper MS-08-2, April 1986.

Lovejoy, W.S. A Note on Exact Solution of Partially Observed Markov Decision Processes. Stanford GSB research paper 1003, 1988.

Lovejoy, W.S. Successive Myopic Approximations for Capacity Expansion Problems. Stanford GSB Research Paper 971, 1987.

Lovejoy, W.S. and M. Pagano, FISH5: Model Description and User's Manual for the University of Delaware Fishery Simulation Project. November 1983.

Lovejoy, W.S. Bfish: A Population Dynamics and Fishery Management Model. Southwest Fisheries Center Administrative Report 12H, June 1977.

Lovejoy, W.S. A Population Dynamics Analysis of the Alternative Management Policies in the Hawaiian Fishery Conservation Zone on the Pacific Stocks and Hawaiian Sport Fishing Yields of Blue and Striped Marlin. Western Pacific Regional Fishery Management Council report in fulfillment of contract WP-77-107, November 1977.

Lovejoy, W.S., M. Patel, D. Hoover, and F. Krommenhock. PECS-III: Probabilistic Evaluation of Cladding Lifetime in LMFBR Fuel Pins. General Electric Company topical report GEFR-00256, October 1977.

Invited papers

I have organized sessions and delivered numerous invited presentations at national and international conferences, and universities.

Consulting and industrial interactions

Detroit Neighborhood Entrepreneurship Project, advising two Detroit-based entrepreneurs on starting and growing their businesses, 2017.

Detroit Food Academy Small Batch production scale up, 2016.

"In Vivo" panel discussion for Roche pharmaceuticals and diagnostics, 2016.

Focus:HOPE, Detroit. Investigated the development of new revenue streams from their installed machining assets, 2012-2014.

Cass Community Social Services, Detroit. Designed and started a financially self-sufficient, eco-friendly mini-business that employs ex-homeless individuals, 2011 – 2013.

Manufactured Aesthetics roundtable with Michigan academics and industry, March 2014.

Chicago Hospital Roundtable discussion sponsored by the American Hospital Association. Resulted in an article on Hospital Operations published in the August issue of *Hospitals & Health Networks.*

Advised many student teams in hospital and clinical settings 2009-2013 on capacity and process analysis projects. Advised Tauber Institute summer interns at Amway, Alcoa, General Motors, DTE trading, Pfizer, Steelcase, Eli Lilly, Dell, Lucent Technologies, Intel, General Signal and others.

Integrated Health Associates, 2011

Emergency Physicians Medical Group, 2010.

Henry Ford Health System, 2007 – present

Open Text Corporation. Presentation on new product processes, spring 2003.

Masco Corporation. Presentation on new product portfolio management, Fall 2000.

C.R. Bard Access Systems, 1998-1999. New product development and portfolio management for a medical device company.

Moderated a panel of industrialists and journalists discussing "Manufacturing in the 21st Century," sponsored by TBM Consulting, November 1997 and November 1998.

In 1995 I advised MBA student teams on many short (7-week) projects in industrial settings, including pharmaceuticals, automotive, non-profit and public sector organizations.

Member of the Board of Directors, Stanford Alumni Consulting Team, 1992-1994.

Premium Standard Farms, 1992. Review operations and capacities for an intensive hog farming system.

Lewis Bolt & Nut Company, 1991- 1995. Member of Board of Advisors for a small metal working firm.

Textiles Nacionales, 1987. Analysis of dye house operations in a textile plant in Ecuador.

Rome News-Tribune, 1985. Organized a task force that provided a managerial overview of a medium-sized newspaper.

Union Pacific Railroad, 1985. Operational analysis of an automated container-handling facility.

Western Pacific Regional Fisheries Management Council, 1977 and 1980. Assessed the impact of alternative management policies on local yield of blue and striped marlin.

Cases written or co-authored

Film-X: Investing in a new technology using decision analysis

Riverside Primary Clinic: Designing and staffing a primary care clinic

Middletown General Hospital: Justifying and sizing an observation unit

Highland Hospital: Negotiations over operating room capacity expansion

Civotech Corp: Funding levels for R&D.

Midwest Medical Center: Capital budgeting in a health system.

LanServe I & II: Process design for a computer server assembly operation facing cost and variety pressures.

A-Squared Compressors: Annual planning exercise balancing labor, marketing and operations issues.

The Privatization of Cummins, S.A.: Privatizing a Mexican joint venture. Co-authored with Martin Gonzalez and Steve Knaebel.

Midco Pharmaceuticals: Product development at a manufacturer of generic, over-the-counter drugs.

Tempes: Environmental Issues in Product Design. Co-authored with Lawrence Molinaro and Christopher Cummings, The Management Institute for Environment and Business.

Mohocko, Inc. (A): Product line decisions with the EPA bubble policy. Coauthored with Christopher Cummings, The Management Institute for Environment and Business.

Mohocko, Inc. (B): Cost-benefit analysis of EPA regulations.

Ostap's Wildlife Safari Garden: Project management and decision analysis. Co-authored with Prof. ir. H. Muller of RUG-Industrieel Beheer, Gent, Belgium.

Pharris Distribution Center: Avoiding stockouts and delivery delays in a distribution facility.

Servicaid, Inc.: The systems effects of lead times and forecasting.

Street-Brite Focussed Factory 2: Product line and process flows in an evolving market.

Clark Bolt & Nut: Redesigning a shop floor into teams and cells.

Lewis Stone, Inc.: Handling labor relations surrounding a plant closure.

Autoprime: A mismanaged JIT exercise.

Variability, Buffers and Inventory teaching note

A Taxonomy of Process Types teaching note

Capacity Management teaching note

I have also guided the student authorship of cases in capacity planning, purchasing management, distribution management and newspaper publishing.

New course development

Entrepreneurial Operations: Starting a product-based company from the ground up.

Integrated Product Development: Developed jointly with colleagues in marketing, engineering and art, at Stanford and Michigan. Teams of Engineers, MBAs and Art and Design students work through an integrated exercise of market research, product design, product manufacture, and competition with their

products against other student teams in a simulated market. This course has been featured on CNN and in *BusinessWeek*, the *New York Times*, *Wall Street Journal*, and other major outlets.

Projects in Health Care: Teams of undergraduates do projects in a local hospital.

Grounded research in operations management: Ph.D. course combining qualitative with quantitative techniques in identifying academically and practically significant problems to address.

Technology Management: Managing R&D including project portfolio selection and external and internal organization, coordination and control.

Integrated Operations: University of Michigan Business School. Managing the functional interfaces between operations and purchasing, marketing, finance, and human resources.

Executive Education

Lecturer to the UM Hospital Department of Surgery (2013 – present)
Lecturer in Henry Ford Health System physician leadership program (2004-present)
Lecturer in UM Hospital Emergency Department Administrative Series (2009- present)
Lecturer in Business Acumen (2006 – 2013)
Faculty director for Spectrum Health System Executive Leadership course (2006 – 2010)
Co-director for Health Care Operations (2004 – 2008)
Instructor in UM Health System Leadership Development Program (2004 - 2008)
Co-Director for Center for Lean Enterprise (2004-2005)
Faculty director for New Products Management (1996-2004)
Lecturer in Manufacturing Executive Program (1995-2003)

Ph.D. student guidance

Principal or co-principal advisor:
Evgeny Kagan, current.
Shanshan Hu, Michigan (2008) - Indiana
Ying Li, Michigan (2004) - Texas A&M.
Scott Carr, Michigan (1999) - UCLA.
Andrew Tsay, Stanford Graduate School of Business (1995) - Santa Clara University.
Chuanpu Hu, Stanford Department of Operations Research (1993) currently in government service.
Reading Committee:
At Stanford: Leif Sjoblom (1992), Mahendra Gupta (1990); Xavier DeGroot (1989). At Georgia Tech: Panisuan Jamnarnwej (1986), Mokrane Bouakiz (1985).
Oral committee:
At Stanford: Marco Licalzi (1991), Anne Spence (1988), Ellen Pint (1988).
Defense chair:
At Stanford: Panos Kouvelis, Ganaro Guiterez, Joel Calabrese, and T.C. Lai.

Organizations and Service (recent)

External

Department Editor (Operations and Supply Chains): *Management Science* (2000-2005).
Senior Editor: *Manufacturing and Service Operations Management* (1999-2002).
Associate Editor: *Operations Research* (1997-1999).
Committee to review Editor-in-Chief of *Operations Research* (2008)
Referee for over 20 scholarly journals in the Operations Research and Management Science community.
Member: Institute for Operations Research and Management Science, Manufacturing and Services Operations Management, Econometric Society, Production and Operations Management Society, and Product Development and Management Association.

University of Michigan

Tauber Institute for Global Operations Executive Committee (2015 – present)
Rackham Graduate School Distinguished Faculty Achievement Awards selection committee (2016-2017)

Provost's Teaching Innovation Prize committee. Center for Research on Learning and Teaching, (2014-15)
Faculty co-director, Master of Entrepreneurship (2011-present)
Provost's Faculty Advisory Committee (2011- 2014)
Campus-wide Entrepreneurship Education task force (2012-2013)
Ross School of Business Dean Search Committee (2010)
Business-Engineering Schools Masters of Entrepreneurship task force (2010-2011)
College of Engineering Dean Search committee (2005)
College of Engineering internal strategic review committee (2003)
Tauber Manufacturing Institute Program Review Committee (2000)

Business School

Associate Dean for Specialty Masters programs (2017 – present)
Ross School of Business faculty evaluation committee (2016-2017)
Ross School of Business Community Values Committee (2016-2017)
Ross School of Business Research Committee (2010-2011)
Executive Committee (2003, 2007-9)
Department Chair, Operations and Management Science (1995-2008)
Chair, Executive Education Director Search Committee (2007-2008)
Executive Education faculty advisory committee (2008-2009)
Research Committee (2006)
Professional Degree Program Review Committee (1998-2004)
Office assignment committee (2011)