

James R. Bradley

Assistant Professor of Manufacturing and Operations Management
The S. C. Johnson Graduate School of Management
Cornell University
Ithaca, NY 14853-6201
607.255.9594 (office)
607.254.4590 (fax)
jrb28@cornell.edu
<http://www.johnson.cornell.edu/faculty/bradley/>

EDUCATION

- 1992-1996 **STANFORD UNIVERSITY** STANFORD, CA
Ph.D. in Industrial Engineering. Enrolled also in Sloan Future Professors of Manufacturing Program. Dissertation title: "Managing Manufacturing Assets and Subcontracting Policies."
- 1982-1984 **DARTMOUTH COLLEGE** HANOVER, NH
MBA. Concentration in Operations Management.
- 1977-1982 **GENERAL MOTORS INSTITUTE** FLINT, MI
Bachelor of Mechanical and Electrical Engineering, 1982. Elected President of Junior Class and Phi Eta Sigma Honor Society.

TEACHING EXPERIENCE

- 1996-Present **CORNELL UNIVERSITY** ITHACA, NY
Taught "Semester in Manufacturing," a fifteen-credit inter-disciplinary course on manufacturing. Topics include manufacturing strategy, plant-level management issues, organizational behavior, fundamentals of manufacturing, manufacturing practices and tools, factory physics, business alliances, and supply chain management. The course features plant tours and executive guest speakers.
- 1996-1997 **CORNELL UNIVERSITY** ITHACA, NY
Taught in the Hyundai Motor Company Executive Education Program at The Johnson School.
- 1996 **SANTA CLARA UNIVERSITY** SANTA CLARA, CA
Developed and taught a course entitled "Integrating Design and Manufacturing" with two other instructors.
- 1994-1995 **STANFORD UNIVERSITY** STANFORD, CA
Faculty Advisor for Industrial Engineering Senior Project course. Teaching Assistant for Analysis of Production and Operating Systems and Manufacturing Strategy courses. Lectured in conjunction with Production and Operating Systems course.

WORK EXPERIENCE

- 1994 **DIGITAL EQUIPMENT CORPORATION** BOXBOROUGH, MA
Conducted research on return on assets maximization in electronic circuit board manufacturing.
- 1991 - 1992 **GENERAL MOTORS CORPORATION** LANSING, MI
Production Superintendent of Lansing Car Assembly Paint Department. Responsibilities included budget attainment, subordinate development, and managing continual quality improvement in the 350- person department.
- 1989 - 1991 **GENERAL MOTORS CORPORATION** PITTSBURGH, PA
Production Superintendent of metal stamping and fabrication production departments manufacturing OEM and service parts. Implemented quality improvements by developing relationships with customers and implementing SPC.
- 1987 - 1989 **GENERAL MOTORS CORPORATION** LANSING, MI
Administrator to Lansing Automotive Division Manufacturing Manager responsible for eight assembly and fabrication plants with an annual \$2 billion budget. Directed the business planning process, budget development, and zero-base manpower planning.
- 1985 - 1987 **Maintenance General Supervisor.** Responsible for daily performance of a \$300 million automated body assembly system. Supervised 24 first-line supervisors responsible for 350 skilled employees.
- 1984 - 1985 **Chairman** of a 90-person task force responsible for increasing the productivity of a highly automated body assembly system. Predicted productivity increases and financial performance using learning curve theory. Developed simulation models to assess improvement strategies.
- 1977 - 1982 **Coop student** experience included engineering and supervision of equipment installations, first-line production and maintenance supervision, and assignments in all assembly plant support functions.

RESEARCH PAPERS

- “The Simultaneous Planning of Production, Capacity, and Inventory in Seasonal Demand Environments,” with Bruce Arntzen, *Operations Research*, Vol. 47, No. 6, Nov.-Dec. 1999, pp. 795-806.
- “So, what has NOT changed in supply chains because of ‘e-biz?’”, with J. Suwinski, D. Thomas, and L. J. Thomas, *Achieving Supply Chain Excellence Through Technology*, Volume 3, 2001, pp. 75-78.
- “Consequences of Order Crossover in Inventory Replenishment Systems,” with L. Robinson and J. Thomas, forthcoming in *Manufacturing and Service Operations Management*, Summer 2001.
- "Managing Capacity and Inventory Jointly in Manufacturing Systems," with Peter Glynn, *Management Science*, Vol. 48, No. 2, Feb. 2002, 273-288.

- "The Effect of Product Variety on Supply-Chain Performance," with U. W. Thonemann, Universitat Munster, forthcoming in *European Journal of Operational Research*.
- "Managing Cyclic Inventories," with R. W. Conway, accepted for publication in *Production and Operations Management*.
- "A Brownian Approximation of a Production-Inventory System with a Manufacturer That Subcontracts," first revision submitted for review to *Operations Research* 7/8/02.
- "Supplier-Manufacturer Relationships Under Forced Compliance Contracts," with Natalia Golovachkina, submitted to *Manufacturing and Service Operations Management*, 6/02.
- "Using Product-Mix Flexibility to Implement a Make-to-Order Assembly Line," submitted to *IIE Transactions*, first revision under preparation.
- "Optimal Stationary Control of an M/M/1 Subcontracting Model," submitted to *International Journal of Production Research*, 7/8/02.
- "Mistakes Commonly Made Using Performance Measures to Motivate Employees," with A. P. Blossom, working paper revised 7/02.
- "Improved Base-Stock Policies Under Order Crossover," with Lawrence W. Robinson, working paper.
- "Managing Manufacturing Assets and Subcontracting Policies," Dissertation, Stanford University, March 1997.

TEACHING MATERIALS DEVELOPED

Manufacturing Bibliography

A Reading list of books on manufacturing, and related topics.

Ethical Dilemmas in Business

This case includes four vignettes that pose ethical dilemmas dealing with variation in environmental and labor standards across the world, preventing terrorism with, and sabotage of company assets resulting in human injury or death, and whistleblowing in a price-fixing situation (i.e. Archer Daniels Midland).

Air Products and Chemicals, Inc. – Distribution Optimization Study

This case was developed in conjunction with Air Product and Chemicals, Inc., and addresses the assessment of new telemetry technology in Air Product's industrial gas delivery and the effectiveness of metrics that drive their logistics decisions.

Wipemarks at Lansing Car Assembly

This case facilitates discussion regarding the importance of standard operating procedures, and how quality tools can be used for the continuous improvement of quality. The case can also be applied to the higher-level, tactical decisions of how a mid-level manager should manage multiple, simultaneously improvement projects.

The Product Liability Review Committee

This case addresses product liability from the perspective of many functional areas, and also how organizational politics and power affect the decision-making process.

Firestone-Bridgestone/Ford Explorer Tire Product Liability Case

The material for this case, which documents the Firestone-Bridgestone tire recall in the summer and fall of 2000, comes from the popular press. This case facilitates the discussion of many issues: quality control, root cause analysis, crisis management, worker-management relationships, culture differences between the U.S and Japan, business ethics, product liability, multi-party design of a complex systems, etc.

The Piece-Rate System at Picksford Stamping Plant (A) and (B)

These cases allow a discussion on the effects of a piece-rate system on productivity, quality, and union-management relationships. Whereas some cases illustrate how a piece-rate system might be successfully employed (e.g. Lincoln Electric), this case illustrates the implementation of a system that is fraught with problems. The (A) case introduces the situation and requires the students to develop a plan for the resolution of problems revolving around the installation of a new assembly line. The (B) case tells how the real story ended.

A Historical Note on the Piece-Rate System

A Historical note that accompanies the Picksford Cases.

The Book-Making Machine Case

A look at supply chain inventories, and service levels, when set-up times are short, and goods can be kept in the form of information so that mass customization, on demand, is possible.

The Book-Making Machine Case Teaching Note

A teaching note for The Book-Making Machine Case.

Cutler-Hammer Capital Budgeting Case

A case, based on a student project, that focuses on the capital appropriations process. The case requires that the students develop a sound justification for their recommendation based on a process-flow analysis. The case also introduces the tensions between the functions within the firm and the phenomenon where project proposals sometimes stretch the truth in order to gain approval for a project.

Coca Cola: Europe, The Summer of 1999

A compilation of news article that document Coke's three product liability crises in the summer of 1999. The case fosters a discussion on the need for standard operating procedures (SOPs) and how managers can ensure that SOPs are followed.

Jenuine Gudgeon Systems Manufacturing (A) and (B)

The (A) case asks the students to make equipment purchase and process improvement decisions in the face of process variability, which is very difficult.

The (B) case allows them to visit the same decisions using discrete-event simulation. This case shows the value of simulation, and allows the students to explore the costs of process, and product variability. (The idea for this case came originally from *Operations Management*, by McClain, Thomas, and Mazzola, but has been revised significantly for these exercises.)

The United Gudgeon Corporation (UGC) Case

This case was originally written by Richard W. Conway. I have re-written the case to focus on a make-to-order situation, and in particular to investigate manufacturing flexibility. The case introduces the question of what type of flexibility is needed at UGC, and how much is needed.

Mountain View Systems (B)

This case was originally written by Richard W. Conway and dealt with both developing a strategy for a start-up firm in a fast-paced industry, and the proper manufacturing structure to support such a strategy. Two prime lessons are (1) strategy of the firm must be considered first, and (2) the manufacturing strategy and operational details must be consistent with and support the overall business strategy. Jan Suwinski and I have broken the case into two sequential parts because the case was too involved for students to grasp. Professor Suwinski re-wrote the first part to deal solely with the strategy. I re-wrote the second portion of the case to deal with the manufacturing strategy and process layout part of the case.

Introduction to Linear Programming

An introduction to linear programming that is used in conjunction with that topic.

Spreadsheet Tools

I have written many spreadsheets to be used in lecture, and by the students after lecture. They include inventory models for sequential stochastic production lines, cyclic schedules with shared resources, seasonal demand, and an @Risk model to accompany a Hewlett-Packard supply chain case.

CONFERENCES PRESENTATIONS AND PAPERS

“Improved Base-Stock Policies Under Order Crossover”, *INFORMS Multi-Echelon Conference*, research with Lawrence W. Robinson, June 2002.

“Improved Base-Stock Policies Under Order Crossover”, *INFORMS Conference*, research with Lawrence W. Robinson, November 2001.

“Using Product Mix Flexibility to Implement a Make-to-Order Assembly Line”, research with A. Paul Blossom, *INFORMS Conference*, June 2001.

“Increasing Product Mix Flexibility on the Assembly Line”, research with A. Paul Blossom, *INFORMS Conference*, November 2000.

“The Effect of Product Variety on Supply Chain Performance”, research with Ulrich Thonemann, at *INFORMS Conference*, November 1999.

“The Simultaneous Planning of Production, Capacity, and Inventory in Seasonal Demand

Environments”, research with Bruce Arntzen, at *INFORMS Conference*, November 1999.

Nine Mistakes in the Use of Performance Measures to Motivate Your Organization, at *INFORMS Conference*, November 1998.

“The Semester in Manufacturing,” at *INFORMS Conference*, May 1998.

“A Subcontracting Manufacturing Model,” Invited Session, (with Professors Hau L. Lee and Peter W. Glynn), *INFORMS Conference*, Spring 1996.

“Doing Business in a Global Environment,” Co-organized and facilitated this conference for small business managers, government officials, and educators with The Center for Applied Competitive Technologies at De Anza College and The National Coalition of Advanced Technology Centers.

“The Capacity/Inventory Investment Tradeoff in Manufacturing Systems,” Sponsored Session, (with Professors Hau L. Lee and Peter W. Glynn), *INFORMS Conference*, Fall 1995.

SERVICE

Chaired and Hosted the *INFORMS Multi-Echelon Inventory Conference* at Cornell University, June 2002.

Associate Editor, *Operations Research*, 1996-2000.

INFORMS Session Chair, *Innovative Management of Manufacturing Capacity*, November 2000.

INFORMS Session Chair, *Education Programs in Manufacturing*, May 1998.

Seminar co-organizer, *Doing Business in a Global Environment*, De Anza College, 1996.

HONORS

Operations Research 1998 Meritorious Service Award

ACADEMIC AWARDS AND FELLOWSHIPS

- 1996 Tony A. Johnson Fellow
- 1995-1996 Department of Energy Integrated Manufacturing Fellowship
- 1994-1996 Thomas W. Ford Manufacturing Fellowship
- 1992-1996 Sloan Future Professors of Manufacturing Fellowship
- 1984 Tuck Scholar, Dartmouth College
- 1982-1984 General Motors Master’s Degree Fellowship
- 1982 Magna Cum Laude, GMI
- Tau Beta Pi, GMI
- Pi Tau Sigma, GMI
- 1981 Phi Eta Sigma Freshman Honor Society, GMI
- Management Honor Society, GMI