

EDWARD GEORGE ANDERSON JR.

Department of Information, Risk & Operations
Management, McCombs School of Business
University of Texas
1 University Station B6500, CBA 5.202
Austin, Texas 78712

Phone: (512) 471-6394
Fax: (512) 471-3937
E-mail: edward.anderson@mcombs.utexas.edu
Web: www.EdAnderson.org
Citizenship: USA

EDUCATION

Massachusetts Institute of Technology. Cambridge, Massachusetts. 1993-1997.

Ph. D. in Management, 1997. Major: Operations Management/System Dynamics. Minor: Statistics.

- Dissertation: *Managing the effects of Business Cycles on Capital Supplier Productivity and Technological Capability*. The thesis examined via simulation and analysis the detrimental effects of demand volatility upon the capabilities of firms' supply chains. Committee: Charles Fine, Stephen Graves, and John Sterman.
- Completed coursework requirements for Master's of Science in Electrical Engineering.
- Won one of 50 **National Defense Science and Engineering Graduate Fellowships** awarded annually by the U.S. Department of Defense to outstanding students pursuing graduate technical studies in the United States.
- GPA: 3.9 of 4.0.

University of Michigan. Ann Arbor, Michigan. 1990-1993.

Master's of Business Administration Program.

Completed approximately one-half of MBA Program. Research thesis: *The Effects of Increasing Product Life upon Automotive Market Response to Macroeconomic Fluctuations*. Utilized a custom-built C++ discrete-event simulator to explore automotive market dynamics as affected by improving product durability. GPA: 3.9 of 4.0.

Stanford University. Stanford, California. 1983-1988.

Bachelor of Arts and Sciences, 1988. Majors: Electrical Engineering and History.

Alfried Krupp von Bohlen und Halbach Engineering Fellow, 1987-1988, to study the German language in Berlin and later work as engineer in Germany. Fairclough Classical History Book Prize for the paper, "The Laffer Curve Applied to Roman Imperial Egypt." History courses included Islamic history as well as a course on military history taught by Prof. Peter Paret. Tau Beta Pi Engineering Honor Society. GPA: 3.7 of 4.0.

ACADEMIC APPOINTMENTS

The University of Texas McCombs School of Business. Austin, Texas. 1997-Present.

Assistant Professor of Management, Operations Management Group, (1997-2004).

Associate Professor of Management, Operations Management Group, (2004-present).

IC² RKG Centennial Fellow (2004-present).

RESEARCH INTERESTS

Product design and innovation in supply chains, project management under risk, national security and energy policy, system dynamics in operations management, computer simulation, dynamic programming and optimal control.

ACADEMIC AND TEACHING EXPERIENCE

University of Texas Department of Management. Austin, Texas.

Associate Professor of Management, 2004-present. *Assistant Professor of Management*, 1997-2004.

Faculty Advisor, BBA Engineering Route to Business Major, 1999-present.

Teach executive and day MBA (BA380N, BA380D) and undergraduate (MAN335) core operations classes. Additionally, teach the MBA operations consulting group practicum class with companies such as Dell, 3M, Factory Logic, Frito-Lay and Applied Materials. Instruct enterprise simulation modeling (system dynamics) for graduate student practicums. Teach executive education course in project management at Shell Oil Company. Founded University of Texas System Dynamics Group center which uses computer simulation to study the effect of e-business on companies with complex markets and supply chains. Undergraduate Faculty Advisor: Engineering Route to Business major. Program combines a business major with a related engineering minor. Redesigned engineering block options to better reflect engineering disciplines and reduce option waivers by 75%.

International Motor Vehicle Program, Massachusetts Institute of Technology. Cambridge, Mass.

Research Assistant, Technology Supply Chains Research Project. 1995-1997.

Developed models of how the concurrent design of supply chains along with product and process design can be accomplished in dynamically volatile environments. Performed case study of the technology supply chain linking the automotive and electronics industries.

Massachusetts Institute of Technology. Cambridge, Massachusetts.

Teaching Assistant, "Technology Supply Chains Seminar," Course 15.795, 1995.

Participated in course design and teaching of seminar taught by Prof. Charles Fine. Seminar treated the design of product and process supply chains to support technology strategy.

Ford Motor Company Truck Group. Dearborn, Michigan, 1993-1995 (summers).

Designed and delivered introductory workshops to Ford Motor Company executives in using system dynamics models to improve understanding of market globalization's effects on the automotive industry.

Accumulatorenwerke Hoppecke, GmbH. (Hoppecke Battery Works). Brilon, Germany, 1988.

Taught (in German) Lotus spreadsheet classes to Hoppecke engineers.

SELECTED PROFESSIONAL EXPERIENCE

Computer-Aided Business Strategies Management Consulting Group. Austin, Texas.

Principal Consultant, 1993-present (part-time).

Designed system dynamics simulation for "Seven Sisters" oil exploration firm to guide investment decisions. Led design of system dynamics simulation which modeled the success factors required by the globalization of the automotive industry for use by the "Big 3" Truck Group in business and product planning.

SELECTED PROFESSIONAL EXPERIENCE (CONT.)

Ford Motor Company Electronics Division. Dearborn, Michigan

Product Design Engineer, 1988-1991. *Manufacturing Engineer*, 1991-1993.

Coordinated 1992 Manufacturing Plan for the Electronics Division (\$4 billion annual sales volume). Performed discrete-event simulation analyses of electronic control module assembly lines. Designed, modeled, and implemented Kalman-Filter control algorithm for four-wheel steering embedded microcontroller system. Designed, modeled, and analyzed several real-time hardware and software strategies to detect engine knock. Modified and tested Ford Electronic Engine Controller circuitry for optimal practical engine knock-detection scheme.

Accumulatorenwerke Hoppecke, GmbH. (Hoppecke Battery Works.) Brilon, Germany.

Electrical Engineer, 1988.

Designed and implemented control software for automated DIN battery lifetime testing project.

General Motors Corporation, Chevrolet-Pontiac Engineering Group. Warren, Michigan.

Product Design Engineering Intern, Powertrain Electronics Department, 1985-1987.

Designed and implemented hardware and software for the OSCAR Idle Quality Detection System, which tested engine idle quality in an objective, repeatable manner via Fourier analyses of crankshaft velocity variations. Designed and coded real-time software solutions to faulty engine control algorithms for the Delco Electronic Engine Control Module.

GRANTS/FELLOWSHIPS

IC² RKG Centennial Fellow (2004-present). Endowed fellowship for researchers in new venture creation and management of innovation.

National Science Foundation (2003). \$245,000 grant (Award #0323227) over three years to investigate how firms should most effectively manage outsourced product and process development across the supply chain. Co-recipients: Alison Davis-Blake and Geoffrey G. Parker.

University of Texas at Austin Herb Kelleher Center for Entrepreneurship (2003). \$60,000 grant to model, simulate, and study operational issues that lead to start-up venture failures. Co-recipient: Mary Ann Anderson.

University of Texas at Austin Summer Research Assignment (2000). \$22,000 grant for research into the robust management of service supply chains.

SAP (1999). \$75,000 grant for the development of an enterprise simulation model based curriculum to teach students how best to utilize enterprise resource planning (ERP) systems in supply chains using the balanced scorecard methodology. Co-recipients: Douglas J. Morrice, James Ritchie-Dunham, and Judy Scott.

Hewlett-Packard (1999). \$25,000 grant for the integration of system dynamics models and real options theory to investigate the optimal structure for long-term high-technology supply-chain contracts.

OTHER HONORS

Wickham Skinner Early-Career Research Accomplishments Award (2002). Awarded by the Production and Operations Management Society for outstanding research by junior faculty during their entire probationary period.

Frank L. Batten Young Scholar (2000). Awarded by the Operations and Information Technology group at the College of William and Mary to identify junior faculty conducting outstanding exemplary research in the supply chain and technology areas.

Institute for Operations Research and the Management Sciences (1997). Meritorious Service Award.

University of Texas McCombs School of Business Awards and Nominations

- **CBA Foundation Research Excellence Award for Assistant Professors** (2003)
- **Trammell/CBA Foundation Teaching Award for Assistant Professors** (2003)
- **Faculty Honor Roll for Outstanding Core Class Instruction** (2001, 2002, 2003)
- **Faculty Honor Roll for Outstanding Executive Education Instruction** (2004)
- **MBA Core Course Teacher of the Year Nominee** (2000, 2002, 2003)
- **Trammell/CBA Foundation Teaching Award for Assistant Professors Nominee** (2002)

ADDITIONAL INFORMATION

PROFESSIONAL SERVICE

- **Senior Editor**, *Production and Operations Management*, New Product Development, R&D, and Project Management Department (2003-present).
- **Vice President – Publications**, Production and Operations Management Society (2006-7).
- **Assistant Secretary**, System Dynamics Society (2006-7).
- **Production and Operations Management Society Board** (2003).
- **Production and Operations Management Society Publications Board** (2001-2003).
- **2001 International System Dynamics Conference**, Vice-Chair for Operations Management.
- Organized the *first System Dynamics Winter Conference* (2000), which brought together the foremost fifty researchers and practitioners in system dynamics under the auspices of the University of Texas McCombs School. Speakers from the Harvard Business School, the MIT Sloan School, the University of Michigan, and the London Business School, among others, lectured on using computer simulation in Enterprise Management, Product and Technology Management, and Social Policy.
- **System Dynamics Winter Conference 2003**, Program Chair.
- **System Dynamics Winter Conference 2005, 2007** Conference Chair.
- **Affiliate**, Alfred P. Sloan Industry Studies Program (2005-present).
- **Ad-Hoc Reviewer**: *Management Science*, *Operations Research*, *Production and Operations Management*, *System Dynamics Review*.

PROFESSIONAL SOCIETIES

Institute for Operations Research and the Management Sciences; The Production and Operations Management Society; Institute of Electrical and Electronics Engineers; The Systems Dynamics Society.

LANGUAGES

Highly fluent in technical and conversational German. Familiar with Spanish and Italian.

OTHER

- Hobbies: Coaching youth soccer, military history, ice hockey.

PUBLICATIONS AND ACCEPTANCES

(*indicates refereed journal, **indicates refereed proceedings)

- *Anderson, Edward G., and Douglas J. Morrice (2006). "Stochastic Optimal Control of Centralized Staffing and Backlog Policies in a Two-Stage Customized Service Supply Chain." *Production and Operations Management*, 15 (2): 263-278.
- *Anderson, Edward G., Douglas J. Morrice, and Gary Lundeen (2005). "The 'Physics' of Service Supply Chains." *System Dynamics Review*, 21 (3): 217-247.
- *Anderson, Edward G. and Nitin Joglekar (2005). "A Hierarchical Modeling Framework for Product Development Planning." *Production and Operations Management*, 14 (3): 344-361.
- *Fitzsimmons, James, Edward G. Anderson Jr., Douglas J. Morrice, and G. Edward Powell (2004). "Service Chain Management." *International Journal of Services Technology and Management* 5 (3): 221-232.
- *Anderson, Edward G., and Geoffrey G. Parker (2002). "The Effect of Learning on the Make/Buy Decision." *Production and Operations Management* 11 (3): 313-339.
- *Parker, Geoffrey G., and Edward G. Anderson Jr. (2002) "From Buyer to Integrator: The Transformation of the Supply Chain Manager in the Vertically Disintegrating Firm." *Production and Operations Management* 11 (1): 75-91.
- *Anderson, Edward G. (2001). "The Non-Stationary Staff Planning Problem with Business Cycle and Learning Effects." *Management Science* 47 (6): 817-832.
- *Anderson, Edward G. (2001). "Managing the Impact of High Market Growth and Learning on Knowledge Worker Productivity and Service Quality." *European Journal of Operational Research* 134 (3): 508-524.
- *Anderson, Edward G., and Douglas J. Morrice (2000). "A Simulation Game for Service-Oriented Supply Chain Management: Does Information Sharing Help Managers with Service Capacity Decisions?" *Production and Operations Management* 9 (1): 40-55.
- *Anderson, Edward G., Charles H. Fine, and Geoffrey G. Parker (2000). "Upstream Volatility in the Supply Chain: The Machine Tool Industry as a Case Study." *Production and Operations Management* 9 (3): 239-261.
- **Anderson, Edward G. (2006). "A Preliminary System Dynamics Model of Insurgency Management: The Anglo-Irish War of 1916-21 as a Case Study." Proceedings of the 2006 International System Dynamics Conference.

PUBLICATIONS AND ACCEPTANCES (CONT.)

**Morrice, Douglas J., Edward G. Anderson, and Saurav Bharadwaj (2004). "A Simulation Study to Assess The Efficacy of Linear Control Theory Models for the Coordination of a Two-Stage Customized Service Supply Chain." *Proceedings of the 2002 Winter Simulation Conference*.

**Anderson, Edward G. and Douglas J. Morrice. (2002). "Capacity and Backlog Management in Queuing-Based Supply Chains." In *Proceedings of the 2002 Winter Simulation Conference* edited by Chun Hung Chen, Jane L. Snowden, and John M. Charnes, pp. 1302-1305.

**Ritchie-Dunham, James, Edward G. Anderson, Douglas J. Morrice, and Judy Scott. (2000). "A Strategic Supply Chain Simulation Model." In *Proceedings of the 2000 Winter Simulation Conference* edited by Jeffrey A. Joins, Russell Barton, Keebom Kang, and Paul A. Fishwick, pp. 1260-1264.

**Anderson, Edward G., and Douglas J. Morrice (1999). "A Simulation Model to Study the Dynamics in a Service-Oriented Supply Chain." In *Proceedings of the 1999 Winter Simulation Conference* edited by Philip A. Farrington, Harriett B. Nembhard, David T. Sturrock, and Gerald W. Evans, pp. 742-748.

Anderson, Edward G. Jr., Alison Davis-Blake, S. Sinan Erzurumlu, Nitin R. Joglekar, and Geoffrey G. Parker (2006). "The Effects of Outsourcing, Offshoring, and Distributed Product Development Organization on Coordinating the NPD Process." Forthcoming in 2007 in *Handbook of New Product Development* edited by C. Loch and S. Kavadias.

Joglekar, Nitin R., Nalin Kulatilaka, and Edward G. Anderson Jr. (2006). "Hierarchical Planning under Uncertainty: Real Options and Heuristics." Forthcoming in 2007 in *Handbook of New Product Development* edited by C. Loch and S. Kavadias.

Parker, Geoffrey G., and Edward G. Anderson (2002). "Supply Chain Integration: Putting Humpty-Dumpty Back Together Again." In *Future Directions in Supply Chain and Technology Management*, edited by Tonya Boone and Ram Ganeshan, pp. 352-376. AMACOM Press.

Anderson, Edward G., and Mary Ann Anderson (2000). "Are Your Decisions Today Creating Your Future Competitors? Avoiding the Outsourcing Trap." *The Systems Thinker* (practitioner journal for system dynamics), September 2000: pp. 1-5.

Anderson, Edward G. and Charles H. Fine (1998). "Business Cycles and Productivity in Capital Equipment Supply Chains." In *Quantitative Models for Supply Chain Management*. Sridhar Tayur, Michael Magazine, and Ram Ganeshan (eds.), pp. 381-415. Kluwer Press.

WORKING PAPERS

(*indicates refereed journal, **indicates refereed proceedings)

*Anderson, Edward G., and Geoffrey G. Parker (2005). "Partial Outsourcing and Linked Learning Processes."

*Anderson, Edward G. and Kyle Lewis (2006). "An Initial Model of Group and Individual Learning." Presented at *2006 International System Dynamics Conference* (Boston, MA). Under revision for submission to *Organization Science*.

*Joglekar, Nitin R. and Edward G. Anderson (2005). "Distributed Innovation with Imperfect Progress Status Information."

**Anderson, Edward G., Alison Davis-Blake, and Geoffrey G. Parker (2004). *Managing Outsourced Product Design: The Effectiveness of Alternative Integration Mechanisms*. Presented at the *2004 Academy of Management Conference*, New Orleans, Louisiana.

PATENTS

U.S. Patents No. 5,066,919; 5,264,796; 5,268,644 all involving fault detection and isolation in automotive wiring harnesses by respectively: network analysis, time-domain reflectometry, and dedicated test lines.

REFERENCES

Dr. Charles H. Fine, Chrysler Leaders for Manufacturing Professor of Management, Massachusetts Institute of Technology. 30 Wadsworth Street, Building E53-393, Cambridge, Massachusetts 02139 Phone: 617-253-3632. E-mail: charley@mit.edu.

Dr. Hirofumi Matsuo, **University of Tsukuba Institute of Policy and Planning Sciences**, 1-1-1 Tennoudai, Tsukuba, Ibaraki 305-0032, Japan. Telephone and Fax: 0298-53-5378, E-mail: matsuo@sk.tsukuba.ac.jp.

Dr. Douglas J. Morrice, Professor of Management, University of Texas. Phone: 512-471-7857. Dept. of Management, 1 University Station B6300. E-mail: Douglas.Morrice@mcombs.utexas.edu.

Dr. John D. Sterman, Jay W. Forrester Professor of Management, Massachusetts Institute of Technology. 30 Wadsworth Street, Building E53-351, Cambridge, Massachusetts 02139. Phone: 617-253-1951. E-mail: jsterman@mit.edu.