

EDWARD GEORGE ANDERSON JR.

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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 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." 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. Graduate School of Business Operations Management Group.

RESEARCH INTERESTS

System dynamics in operations management, design of supply chains for knowledge and resource management, service supply chains, product design, computer simulation, dynamic programming and optimal control.

ACADEMIC AND TEACHING EXPERIENCE

University of Texas Department of Management. Austin, Texas.

Assistant Professor of Management. 1997-present.

Teach MBA (BA380N) 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. Founded Texas Enterprise Simulation 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 systems dynamic 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.

Ford Motor Company Electronics Division. Dearborn, Michigan

Manufacturing Engineer. 1991-1993.

Led "Factory of the Future" team in creating vision of what automotive electronics plants should look like in order to maximize their competitiveness over the next five to ten years. The vision integrated key aspects of manufacturing and organizational flexibility strategies. Performed discrete-event simulation analyses of electronic control module assembly lines. Acted as liaison with Massachusetts Institute of Technology's Organizational Learning Center. Coordinated 1992 Manufacturing Plan for the Electronics Division (\$4 billion annual sales volume).

SELECTED PROFESSIONAL EXPERIENCE (CONT.)

Ford Motor Company Electronics Division. Dearborn, Michigan

Product Design Engineer. 1988-1991.

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

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.

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

University of Texas McCombs School of Business Faculty Honor Role (2001).

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.

University of Texas MBA Core Course Teacher of the Year Nominee (2000).

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

ADDITIONAL INFORMATION

PROFESSIONAL SERVICE

- **Production and Operations Management Society Publications Board** (2001-present).
- **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.

PROFESSIONAL SOCIETIES

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

LANGUAGES

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

OTHER

- Place and Date of Birth: Royal Oak, Michigan. November 19, 1965.
- Married to Mary Ann Zibble on Nov. 20, 1993; Edward III (Ted) born on Jan. 29, 1996; Katherine born on July 5, 1998; William born on August 9, 2001.
- Hobbies: Military history, ice hockey.

PUBLICATIONS

(refereed journals in bold)

Anderson, E. G. (2001). "The Non-Stationary Staff Planning Problem with Business Cycle and Learning Effects." *Management Science* 47 (6): 817-832.

Anderson, E. G., and D. J. Morrice (2000). "A Simulation Game for Service-Oriented Supply Chain Management: Does Information Sharing Help Managers with Service Capacity Decisions?" *Journal of Production and Operations Management* 9 (1): 40-55.

Anderson, E. G., C. H. Fine, and G. G. Parker (2000). "Upstream Volatility in the Supply Chain: The Machine Tool Industry as a Case Study." *Journal of Production and Operations Management* 9 (3): 239-261.

Anderson, E. G., and D. 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 P. A. Farrington, H. B. Nembhard, D. T. Sturrock, and G. W. Evans. (Refereed Proceedings.)

Anderson, E. G., and M. A. Anderson (2000). "Are Your Decisions Today Creating Your Future Competitors? Avoiding the Outsourcing Trap." *The Systems Thinker* (practioner journal for system dynamics), September 2000: 1-5.

PUBLICATIONS (CONT.)

Anderson, E. G. and C. H. Fine (1998). "Business Cycles and Productivity in Capital Equipment Supply Chains." In *Quantitative Models for Supply Chain Management*. S. Tayur, M. Magazine, and R. Ganeshan (eds.). Kluwer Press.

Anderson, E. G. and N. R. Joglekar (1996). "Modeling the Dynamics of Innovation at the Firm Level." Presented paper at the *International Conference of System Dynamics* in July 1996.

FORTHCOMING PUBLICATIONS

Anderson, E. G. "Managing the Impact of High Market Growth and Learning on Knowledge Worker Productivity and Service Quality." *European Journal of Operational Research*.

Anderson, E. G., and G.G. Parker. "A Dynamic Simulation of the Effect of Learning on the Make/Buy Decision." *Journal of Production and Operations Management*.

Parker, G. G., and E. G. Anderson. "Supply Chain Integration: Putting Humpty-Dumpty Back Together Again." In *Future Directions in Supply Chain and Technology Management*, edited by T. Boone and R. Ganeshan.

WORKING PAPERS

Anderson, E. G., and D. J. Morrice (2000). "Capacity and Backlog Management in Service-Oriented Supply Chains." Second revision under review for *Management Science*.

Fitzsimmons, J., E. Anderson, D. Morrice, and G. E. Powell (2001). "Service Chain Management." Submitted to the *International Journal of Operations Management*.

Parker, G. G., and E. G. Anderson Jr. (1999). "From Buyer to Integrator: The Transformation of the Supply Chain Manager in the Vertically Disintegrating Firm." Second revision under review at the *Journal of Production and Operations Management*.

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

Charles H. Fine, Chrysler Leaders for Manufacturing Professor of Management, Massachusetts Institute of Technology. Phone: 617-253-3632. E-mail: charley@mit.edu.

Douglas J. Morrice, Associate Professor of Management Science, University of Texas. Phone: 512-471-7857. E-mail: morrice@mail.utexas.edu.

John D. Sterman, Standish Professor of Management, Massachusetts Institute of Technology. Phone: 617-253-1951. E-mail: jsterman@mit.edu.