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Assistant Professor of Operations Management
The Robert O. Anderson School and Graduate
School of Management
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EDUCATION

Ph.D. Business Administration, Operations Management, University of Southern California, Los Angeles, CA, 1997.
Dissertation Topic: Service Quality Improvement Through the Reduction of Human Error
Advisor: Richard B. Chase, Justin Dart Professor of Management

M.S. Management, Quality Management, North Carolina State University, Raleigh, NC, 1991.

B.S. Mechanical Engineering, North Carolina State University, Raleigh, NC, 1989.

PROFESSIONAL EXPERIENCE

Assistant Professor, Operations Management, The Anderson Schools of Management, University of New Mexico, Fall 2004 – Present.

Assistant Professor, Supply Chain Management, Department of Marketing and Supply Chain Management, The Eli Broad Graduate School of Management, Michigan State University, Fall 1997 – Summer 2004.

Lecturer, Marshall School of Business Administration, Department of Information and Operations Management, University of Southern California, Summer 1995 – Spring 1997.

Instructor, Marshall School of Business Administration, Department of Information and Operations Management, University of Southern California, Fall 1994 – Spring 1995.

RESEARCH INTERESTS

- Service operations management and service design
- Performance metrics, metrics sets and metrics systems
- Alignment of strategic intent with operational activities
- Quality and productivity improvement in services and manufacturing
- Application of cognitive psychology to service design issues

PUBLICATIONS:

Books

Melnyk, S.A., **D.M. Stewart**, R.J. Calantone, and C. Speier, (2003) *Metrics and the Supply Chain: An Exploratory Study*, forthcoming from APICS Press.

Chase, R.B. and **D.M. Stewart**, (1995) *Mistake-proofing: Designing Errors Out*, Productivity Press: Portland, OR.

Book Chapters

Chase, R.B. and **D.M. Stewart**, (2000) "Fool Proof Service: Poka-Yoke," in P.K. Shukla (Ed.), *Annual Editions: Production and Operations Management*, Dushkin/McGraw-Hill: Guilford, CT, pp. 39-41.

Chase, R.B., and **D.M. Stewart**, (1993) "Fail-Safing Services," in Scheuing, E. and Christopher, W. F. (Eds.), *The Service Quality Handbook*, AMACOM, New York, pp. 347-357.

Journal Articles

Stewart, D.M., (2003) "Piecing Together Service Quality," *Production and Operations Management Journal*, 12:2, 246.

Melnyk, S.A., **D.M. Stewart** and M. Swink (2003) "Metrics and Performance Measurement in the Operations Measurement System: Dealing with the Metrics Maze," *Journal of Operations Management*, 22:3, 209.

Stewart, D.M. and S.A. Melnyk, (2003) "The Challenges of Aligning Metrics within the Corporate Setting: A Field Study," forthcoming in *Production and Inventory Management Journal*.

Cook, L.S., D.E. Bowen, R.B.Chase, S. Dasu, **D.M. Stewart** and D.A. Tansik, (2002) "Human Issues in Service Design," *Journal of Operations Management*, 20, 159-174.

Melnyk, S.A. and **D.M. Stewart** (2002) "Managing Metrics," *APICS the Performance Advantage*, February, 23-26.

Stewart, D.M. and J.R. Grout, (2001) "The Human Side of Mistake-Proofing," *Production and Operations Management Journal*, 10:4, 440-459.

Stewart, D.M. and S.A. Melnyk, (2000) "Effective Process Improvement: Developing Poka-Yoke Processes," *Production and Inventory Management Journal*, 41:4, 48-55.

Stewart, D.M. and R.B. Chase, (1999) "The Impact of Human Error on Delivering Service Quality," *Production and Operations Management Journal*, 8:3, 240-263.

Stewart, D.M., (1997) "Operations Psychology," *Decision Line*, 28:5, 12-14.

Chase, R.B. and **D.M. Stewart**, (1995) “So gestalten Sie Ihren Service pannensicher,” with R.B. Chase, *Harvard Business Manager*, pp. 81-92, 2nd Quarter. (Translation of “Make Your Service Fail-Safe.”)

Chase, R.B. and **D.M. Stewart**, (1994) “Make Your Service Fail-Safe,” *Sloan Management Review*, 35:3, 35-44.

Chase, R.B. and **D.M. Stewart**, (1994) “Foolproof Service,” *USC Business*, 5:1, 33-35.

Conference Proceedings and Presentations

Melnyk, S.A., J.D. Hanson, R.J. Calantone, **D.M. Stewart**, G.A. Zsidisin, J. Luft, L.A. Burns, “Case Study Research on Metrics Deployment and Alignment” *Proceedings of the Decision Sciences Institute National Conference 2004*.

Melnyk, S.A., R.J. Calantone, J. Luft, **D.M. Stewart**, and G.A. Zsidisin, “Linking Customers, Strategy, and Activities: An Empirical Investigation of the Metrics Alignment Process,” *Performance Measurement Association Conference*, Edinburgh, UK, July 28-30, 2004.

Stewart, D.M. and E.C. Jackson (2003) “Matching Customer Scripts and Service Encounter Designs,” *Proceedings of the Decision Sciences Institute National Conference 2003*.

Stewart, D.M., (2003) “Designing Robust Service Encounters” *Proceedings of the Production and Operations Management National Conference 2003*.

Stewart, D.M. and S.A. Melnyk (2003) “Developing Capability Fit Across Supply Chain Relationships,” *Proceedings of the Production and Operations Management National Conference 2003*.

Hui, S., S.A. Melnyk, and **D.M. Stewart** (2003) “Evaluating Alignment and its Impact – A Case Study Approach” *Proceedings of the Production and Operations Management National Conference 2003*.

Stewart, D.M. and S.A. Melnyk, (2002) “Metrics Sets and Metrics Explosions: The Failure of the MRP approach to Metrics and the Emerging Metrics Process,” *Proceedings of the Decision Sciences Institute National Conference 2002*.

Stroufe, R., S.A. Melnyk and **D.M. Stewart**, (2002) “Embedded Environmental Metrics,” *Proceedings of the Decision Sciences Institute National Conference 2002*.

Stewart, D.M. (2000) “Matching Customer Scripts and Service System Designs to Improve Service Quality,” *Proceedings of the Production and Operations Management National Conference 2000*.

Stewart, D.M. and J.R. Grout (1999) “The Human Side of Mistake-Proofing,” *Proceedings of the Decision Sciences Institute National Conference 1999*.

Vastag, G. and **D.M. Stewart**, (1999) "Managing and Measuring Change: A Resource Based Perspective for Manufacturing and Services," *Proceedings of the Decision Sciences Institute National Conference 1999*.

Grout, J.R. and **D.M. Stewart**, (1996) "A Review of Mistake-proofing Theory and Practice," *Proceedings of the Decision Sciences Institute National Conference 1996*.

Reports and Studies

Melnyk, S.A., **D.M. Stewart**, R.J. Calantone, and C. Speier, (2003) "Metrics and the Supply Chain: An Exploratory Study," a research report presented to The Educational Research Foundation APICS, October 15, 2002.

Melnyk, S.A., **D.M. Stewart**, R.J. Calantone, and C. Speier (2001) "Embedded Environmental Metrics: An Approach for Developing More Effective Metrics," a research report presented to The Manufacturing Research Consortium, Michigan State University, November 3, 2001.

WORKING PAPERS AND PAPERS UNDER REVIEW

Stewart, D.M. and E. Jackson, "Matching Customer Scripts and Service System Designs." This paper addresses the causes of mismatch between customer scripts and the intended service process; and based on the theory of scripting, provides guidelines for script sensitive design, the elicitation of desired scripts, handling novel processes, and dealing with inexperienced customers.

Stewart, D.M. "Design Factors Influencing Service Errors." Based on critical incident survey data, I report on various service design parameters that appear to influence the propensity for errors by both customers and servers.

Melnyk, S.A., **D.M. Stewart**, S. Hui and K. Boyer, "Strategic Alignment of Marketing, Operations and Customer: The Impact on Performance." Validate a strategic alignment tool for publication, and show the impact of alignment between marketing, production and the customer on firm performance.

Melnyk, S.A., G. Zsidisin, **D.M. Stewart** and J. Hanson "From Pairs to Webs: Recasting Agency Theory Within the Supply Chain Setting." This paper extends our metrics research in the supply chain context by casting it in an agency theory perspective. We develop extensions to traditional agency theory that are necessary to represent the observed reality in the supply chain.

Melnyk, S.A., **D.M. Stewart** and T. Page, "Decline of Survey Based Methodology." This paper is an evaluation of the state of survey-based research methodologies through a meta-survey of the operations literature and that of other fields considered to be leading indicators of these techniques. We ask if our standards of a good survey are changing, if our data collection methods should be changing, and how rapidly these problems are increasing.

Stewart, D.M. “Classification of Errors in Operations: The Revised Generic Error Modeling System.” This paper introduces a classification system from cognitive psychology to facilitate study of error in operations called the Generic Error Modeling System (GEMS). The paper draws on additional supporting literature to resolve certain ambiguities in the GEMS model as well as to enrich the underlying theory.

Stewart, D.M. and G. Vastag, “Linking Strategy, Operations and Competitive Performance through the Metrics Hierarchy.” This paper introduces a resource-based conceptual model that links operations strategy to competitive advantage through operational practices and performance. It emphasizes the role of measurement as the linking mechanism.

Stewart, D.M. “Classification of Poka-Yoke Devices by Cognitive Error Mechanisms: A New Design Approach.” Based on empirical evidence, this paper links specific types of poka-yoke devices with the underlying cognitive error mechanisms that each was intended to prevent.

Stewart, D.M. “Beyond Blueprinting: A SocioTechnical Approach to Service System Design.” Based on Herbst’s socio-technical system design, a service design tool is developed that captures not only the process, but the actors and the ingredients (information and materials) needed, and their interrelationships.

GRANTS AND SPONSORED RESEARCH

Melnyk, S.A, R.J. Calantone, **D.M. Stewart**, G.A. Zsidisin and J. Luft, “Linking Customers, Strategy, and Activities: An Empirical Investigation of the Metrics Alignment Process,” funded by The KPMG and University of Illinois Business Measurement Research Program, \$124,000. Status: Funded, Start Date June 2003.

Melnyk, S.A, **D.M. Stewart**, R.J. Calantone and G.A. Zsidisin, “Assessment of Metrics Use and Understanding in the Purchasing Function,” sponsored by The Ontario Institute of the Purchasing Management Association of Canada through access to membership, supporting letters and focus groups. Status: Start Date May 2003.

Melnyk, S.A., **D.M. Stewart**, R.J. Calantone and C. Speier, “Metrics in the Supply Chain,” funded by APICS, \$10,000. Status: Completed.

Melnyk, S.A., **D.M. Stewart**, R.J. Calantone and C. Speier, “Embedded Environmental Metrics,” funded by Manufacturing Research Consortium, \$20,000. Status: Completed.

EDITORIAL/REVIEW

Co-Editor for: *Journal of Operations Management*,
Special Issue on Performance Measurement forthcoming 2003.

Reviewer for: *Decision Sciences*
Journal of Operations Management
Production and Operations Management
European Journal of Operations Research
IEEE Transactions
International Transactions in Operations Research
POMS Conference Proceedings
DSI Conference Proceedings

PRIMARY TEACHING INTERESTS

- Management of Service Organizations
- Total Quality Management Methods
- Operations Management
- Supply Chain Management

COURSES TAUGHT

Graduate:

- MGT 523 – Service Operations Management
- MSC 842 – Total Quality Management
- MSC 874 – Managing Quality
- PIM 873 – Managing for Performance Excellence
- MSC 821 – Practical Supply Chain Management

Undergraduate:

- MGT 433 – Service Operations Management
- MSC 303 – Introduction to Supply Chain Management (600 seat class)
- MSC 305 – Supply Chain Management II
- MSC 401 – Manufacturing Planning and Control
- IOM 301 – Introduction to Operations Management

Executive Education:

- Masco Leadership Program in Operations Management (2001 – 2003)
- Operations and Supply Chain Management Seminar (2003)
- Reengineering Performance Measurements for the Supply Chain and Beyond - a one-day Ontario Institute of Purchasing Management Association Seminar (2002)
- Advanced Management Development Program - Systems to Ensure Quality (1996)

HONORS AND AWARDS

- Shingo Prize for Excellence in Manufacturing Research, May 20th 2004.
- Best Paper Award: Performance Measurement Association Conference, Edinburgh, UK, July 28th-30th, 2004.
- Romey Everdale Award for Outstanding Journalistic Achievement – Best paper 2002 from the American Production and Inventory Control Society.
- Student Recognition Award, Program in Integrative Management (Professional MBA) 1999.
- New Faculty Development Colloquium – Decision Sciences Institute National Conference 1997.
- Doctoral Research Fellowship, Graduate School of Business Administration, University of Southern California, 1991-1997.
- Doctoral Colloquium, Academy of Management, August 1995.
- 2nd Place, Mechanical Engineering Senior Design Competition, North Carolina State University, 1989.

BUSINESS INVOLVEMENT AND CONSULTING

- MASCO Corporation (Delta, Behr, Kraftmaid, Merillat, Baldwin Hardware)
- Steelcase Corporation
- Herman-Miller Corporation
- Delta Engine Plant (General Motors)
- Ford Motor Company
- Demmer Corporation
- David Brown Union Pump
- Kellogg Company
- AutoAir (Division of Pratt&Whitney)
- Spartan International (Division of Avery International)
- Kirk Plastic Company
- Tangram Systems Corporation
- Board member, Stewart Farms Management Corp.

PROFESSIONAL AFFILIATIONS

- Member, Production and Operations Management Society
- Member, INFORMS
- Member, Decision Sciences Institute
- Member, Academy of Management
- Member, American Society for Quality Control

COMMITTEES/SERVICE

- University Committee on Faculty Affairs (UCFA), Spring 2000 – Spring 2001
- UCFA – Budget Subcommittee, Spring 2000 – Spring 2001
- Eli Broad College Undergraduate Program Committee, Fall 2001 – Present
- Doctoral Committees (3)