

Douglas J. Thomas

Henry E. McWane Professor of Business Administration
Darden School of Business
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October 12, 2021

EDUCATION

Ph.D. Industrial Engineering

M.S. Industrial Engineering

Georgia Institute of Technology - School of Industrial & Systems Engineering

B.S. Operations Research and Industrial Engineering (Honors)

Cornell University - School of Operations Research and Industrial Engineering

POSITIONS HELD

Henry E. McWane Professor	Darden School of Business, University of Virginia	2020 –
Professor	Darden School of Business, University of Virginia	2017 –
Professor	Smeal College of Business, Penn State	2013 – 2017
Associate Professor	Smeal College of Business, Penn State	2006 – 2013
Assistant Professor	Smeal College of Business, Penn State	1999 – 2006
MBA Faculty Director	Smeal College of Business, Penn State	2011 – 2014
Visiting Scholar	The Darden School	2016
Visiting Scholar	Johnson Graduate School of Management	2014 – 2015
Visiting Scholar	INSEAD	2007 – 2008
Chief Scientist	Plan2Execute	2014 –
Analyst/Consultant	C-Way Systems, Inc.	1991 – 1993

Refereed journal publications

- Huang, R., A. M. Davis, D. J. Thomas, “**Retailer inventory sharing in two-tier supply chains: An experimental investigation,**” forthcoming, *Management Science*.
- Mani, V., D. J. Thomas, S. Bansal, “**Estimating product substitution and basket abandonment effects in retail stores: Implications for assortment planning,**” forthcoming, *Management Science*.
- Abbasi, B., M. Fadaki, H. Jahani, Z. Hosseiniard, D. J. Thomas, “**Allocation policies to fulfil heterogenous service requirements under resource pooling,**” forthcoming, *Decision Sciences*.
- Goldschmidt, K., M. Kremer, D. J. Thomas, C. Craighead, “**Strategic sourcing under severe disruption risk: Learning failures and under-diversification bias,**” *Manufacturing and Service Operations Management*, 23(4), 761-780, 2021.

- Hu, K., J. Acimovic, F. Erize, D. Thomas, J. Van Mieghem, “**Forecasting new product life cycle curves: Practical approach and empirical analysis**,” *Manufacturing and Service Operations Management*, 21(1), 66-85, 2019. This paper was selected as a finalist in the 2017 Practice-Based Research Competition for Manufacturing and Service Operations Management.
- Acimovic, J., F. Erize, K. Hu, D. Thomas, J. Van Mieghem, “**Product life cycle data-set: Raw and cleaned data of weekly orders for personal computers**,” *Manufacturing and Service Operations Management*, 21(1), 171-176, 2019.
- Fan, J., A. Kwasnica, D. Thomas, “**Paying for teamwork: Supplier coordination with endogenously-selected groups**,” *Production and Operations Management*, 27(6), 1089-1101, 2018.
- Chen, C., D. Thomas, “**Inventory allocation in the presence of service level agreements**,” *Production and Operations Management*, 27(3), 553-577, 2018.
- Abbasi, B., Hoseinifard, Z., Alamri, O., Thomas, D. J., Minas, J. P., “**Finite time horizon fill rate analysis for multiple customer cases**”, *Omega*, 76, 1-17, 2018.
- Kremer, M., E. Siemsen, D. Thomas, “**The sum and its parts: Judgmental hierarchical forecasting**,” *Management Science*, 62(9), 2745-2764, 2016.
- Gao, L., D. Thomas, M. Freimer, “**Optimal inventory control with retail pre-packs**,” *Production and Operations Management*, 23(10), 1761-1778, 2014.
- Wang, T., D. Thomas, N. Rudi, “**The effect of competition on the efficient-responsive choice**,” *Production and Operations Management*, 23(5), 829-843, 2014.
- Harrison, T.P, P.J. Houm, D. Thomas, C. Craighead “**Supply chain disruptions are inevitable – Get READI: Resiliency enhancement analysis via deletion and insertion**,” *Transportation Journal*, 52(2), 264-276, 2013.
- Freimer, M., J. Linderoth, D. Thomas, “**The impact of sampling methods on bias and variance in stochastic linear programming**,” *Computational Optimization and Applications*, 51(1), 51-75, 2012.
- Srinivasan, M., R. Novack, D. Thomas, “**Optimal and approximate policies for inventory systems with order crossover**,” *Journal of Business Logistics*, 32(2), 180-193, 2011.
- Thomas, D., D. Warsing, X. Zhang, “**Forecast updating and supplier coordination for complementary component purchases**,” *Production and Operations Management*, 18(2), 167-184, 2009.
- Katok, E., D. Thomas, A. Davis “**Inventory service level agreements as coordination mechanisms: The effect of review periods**,” *Manufacturing and Service Operations Management*, 10(4), 609-624, 2008.
- Thomas, D., D. Warsing, “**A periodic inventory model for stocking modular parts**,” *Production and Operations Management*, 16(3), 343-359, 2007.
- Thomas D., J. Tyworth, “**Is pooling lead-time risk by splitting orders simultaneously worthwhile?**” *Journal of Business Logistics*, 28(1), 169-193, 2007.

- Barton, R., D. Lin, H. Bi, M. Freimer, Z. Huang, J. Shu, D. Thomas, S. Xu, “**Challenges in RFID enabled supply chain management**,” *Quality Progress*, 2006, 39(11), 23-28.
- Thomas D., J. Tyworth, “**Pooling lead-time risk by order splitting: A critical review**,” *Transportation Research Part E*, 42(4), 245-257, 2006.
- Freimer, M., D. Thomas, J. Tyworth, “**The value of setup cost reduction and process improvements for the economic production quantity model with defects**,” *European Journal of Operational Research*, 173(1), 241-251, 2006.
- Chen-Ritzo, C., T. Harrison, A. Kwasnica, D. Thomas, “**Better, Faster, Cheaper: An experimental analysis of a multi-attribute reverse auction mechanism with restricted information feedback**,” *Management Science*, 51(12), 1753-1762, 2005.
- Thomas, D., “**Measuring item fill rate performance in a finite horizon**,” *Manufacturing and Service Operations Management*, 7(1), 74-80, 2005.
- Novack, R., D. Thomas, “**The challenges of implementing the perfect order concept**,” *Transportation Journal*, 43(1), 5-16, 2004.
- Chen, J., D. Lin, D. Thomas, “**On the item fill rate for a finite horizon**,” *Operations Research Letters*, 31(2), 119-123, 2003.
- Thomas, D., S. Hackman, “**A committed delivery strategy with fixed frequency and quantity**,” *European Journal of Operational Research*, 148(2), 363-373, 2002.
- Srinivasan, M, D. Thomas, “**Return on investment for a warehouse management system**,” *Supply Chain Practice Journal*, 4(2), 44-57, 2002.
- Thomas, D., P. Griffin, “**Coordinated supply chain management**,” *European Journal of Operational Research*, 94(1), 1-15, 1996. (Selected from over 10,000 articles as one of the 30 most influential articles in the first 30 years of the journal. www.elsevier.com/authored_subject_sections/S03/Anniversary/30th_anniversary.htm. Recognized also on the 40th anniversary of the journal as the 17th most cited paper out of the 12,000+ papers published in the journal.)

Selected working papers

- Saldanha, J. P. B. P. Price, D. J. Thomas, “**A Non-Parametric Approach for Setting Safety Stocks for a Continuous Review Inventory Policy**.”

Books

- Silver, E., D. Pyke, D. Thomas, “**Inventory and Production Management in Supply Chains**,” CRC Press, 2017.

Other publications

- Hämäläinen, M., T. Kraft, D. Thomas, Y. Zheng. “**Supply Chain Transparency at Goodio Chocolate**,” chapter for edited volume *Responsible Operations*, ed. Deshpande, V., Swami-nathan, J., 2020 (forthcoming).

- Thomas, D., “**Improvements in Inventory Management: Past Success and Future Opportunities**,” invited chapter for edited volume, *Cross-functional inventory research*, World Scientific, 2016.
- Holcomb, M., A. Krul, D. Thomas, “**How business and universities are collaborating**,” *Supply Chain Management Review*, July/August, 2015.
- Liu, Y., E. Thomchick, M. Pietrucha, D. Thomas, “**Facility location case study: Pennsylvania Department of Transportation driver license centers**.” Technical report delivered to Pennsylvania Department of Transportation.
- Thomas, D., “**Customer service models for bricks, clicks and in between**,” invited chapter, *Supply Chain Management: Algorithms and Applications*, Kluwer Academic Publishing, eds. Joseph Geunes, H. Edwin Romeijn, 2002.
- *eBusiness and Supply Chain Processes*, published by The Supply Chain Council, D. Thomas and W. Grenoble eds., 2002.
- Kwasnica, A. and D. Thomas, “**Case Study: Reverse auctions at General Electric Transportation Systems**,” in *eBusiness and Supply Chain Processes*, 2002.
- Hood, B., R. Novack, D. Thomas, “**Integration of a commercial warehouse management system in an undergraduate fulfillment course**,” Council of Logistics Management Educator’s Conference, (refereed proceedings) September 2002, San Francisco.
- Bradley, J., J. Suwinski, D. Thomas, L. Thomas, “**So, what has NOT changed in supply chains because of ‘e-biz?’**,” Achieving Supply Chain Excellence through Technology, Volume 3, www.ascet.com.
- Thomas, D., “**E-Business and the supply chain**,” Proceedings of the Symposium on Supply Chain Management Practice and Research: Status and Future Directions, sponsored by the Robert H. Smith School of Business (University of Maryland), in association with the National Institute of Standards and Technology, the National Science Foundation, the Center for Logistics Research (Pennsylvania State University) and the Supply-Chain Council, April 2001.

Selected Teaching Materials

- Craddock, J. and D. Thomas, “**Devils Backbone Brewing - Integrated Independence**”, UVA-OM-1616, 2020.
- Thomas, D., H. Zhao, S. Maiden, G. Yemen, “**From Stuffing to Streamlining: Pharmaceutical Distribution**”, UVA-F-1859, 2019.
- Hämäläinen, M., T. Kraft, D. Thomas, G. Yemen, Y. Zheng. “**Goodio Supply Chain: A Chocolatey Future?**” UVA-OM-1613, 2019.

External Research Funding

- “**Supply Chain Practices for Small Manufacturing Enterprises**,” National Institute of Standards and Technology, September 2005. \$189,000. Co-investigator with Carleen Maitland, Irene Petrick and Gerald Susman.

- “Are Real-Time Inventory Updates Worth Anything?” funded by IBM, June 2005. \$25,000. Co-investigator with Michael Freimer.
- “Coordinating Production Planning between a Contract Manufacturer and an Original Equipment Manufacturer,” funded by IBM, January 2002. \$43,000. Co-investigator with Donald Warsing.
- “Return on Investment for Warehouse Management System Implementation,” funded by EXE Technologies, Dallas, Texas, January 2001. \$25,000. Principal investigator.
- “The Impact of E-Business on Supply Chain Processes,” funded by the Supply-Chain Council, August 2000. \$65,000. Principal investigator.
- Research funding for Sales and Operations Planning benchmarking group through the Center for Supply Chain Research approximately \$400,000, 2004 – 2014. Principal investigator.
- Strategic Planning for PennDOT Driver Licensing Centers funded by Pennsylvania Department of Transportation. 2007-2009. \$132,418.

Teaching and Consulting Experience

- Frequent faculty leader in executive programs throughout the United States, Europe, Asia and Africa, including custom programs for Accenture, ExxonMobil, IBM, Mars, Office Depot, Parker-Hannifin, Pfizer, Ingersoll-Rand, U.S. Marine Corps and open-enrollment programs at Penn State, Georgia Tech, INSEAD and Centre Européen d’Éducation Permanente (CEDEP).
- Recipient of MBA Teaching awards: 2004, 2006, 2007, 2012.
- Courses developed and delivered (at Penn State) include:
 - **Full-time MBA:** Two electives on (1) Demand Fulfillment and (2) Quantitative Modeling for Supply Chain Management
 - **Executive MBA:** elective on Supply Chain Management
 - **Ph.D. program:** Foundations of Supply Chain and Operations Management
 - **Undergraduate:** A new course on Warehouse and Distribution Operations, integrating a Warehouse Management System (WMS) into the class.
 - **Online Master’s in Supply Chain Management:** Transportation and Distribution.
 - **Master’s in Manufacturing Management:** Two course sequence on Product Design and Development.
- Invited professor at the MIT-Zaragoza Summer Academy 2008 (summer program for Ph.D. students from multiple institutions).
- Faculty director for Sales and Operations Planning industry benchmarking consortium through the Center for Supply Chain Research (Penn State) from 2004–2014.
- Consultant on supply chain strategy and education issues for Accenture, CSL Behring, Dell, ExxonMobil, Florida Power and Light, Lockheed Martin.
- Testimony as expert witness on supply chain software issues.

Selected Invited Research Seminars

The Darden School, University of Virginia; Kenan-Flagler Business School, University of North Carolina; Boeing Center for Technology, Information and Manufacturing, Olin School of Business, Washington University in St. Louis; R.H. Smith School of Business, University of Maryland; National University of Singapore; INSEAD; Lehigh University; Johnson Graduate School of Management, Cornell University; Carlson School of Management, University of Minnesota; Smeal College of Business, Penn State University.

Selected Keynote Presentations at Company/Industry Events

Deloitte; DuPont; Gorton's (Unilever); Hershey Foods; Hewlett-Packard; J.H. Cohn/TotalLogistix; Microsoft; SAP; Supply Chain World (keynote at conference hosted by the Supply Chain Council).

Selected University Service

- MBA (full-time) Faculty Director, 2011 – 2014. Responsibilities included
 - Working with faculty and department chairs to assign faculty to courses; review faculty performance; discuss potential improvements to educational delivery.
 - Overseeing curriculum design and other curriculum issues.
 - Leading assurance of learning initiatives for AACSB accreditation
 - Overseeing student academic performance; serve as academic integrity officer and oversee academic integrity issues.
 - Coordinating with the Managing Director of the MBA program on admissions, student services, career services, employer relations
 - Coordinating “Global immersion” trips - one week international trips with first-year students. Select locations, coordinate faculty and staff leaders of trips, set academic objectives.
- Chair of Faculty Hiring committee, Supply Chain and Information Systems department, 2009-2010, 2011-2012, 2015-2016. Led recruiting efforts resulting in 7 new tenure-track hires.
- Hiring committee for Executive Education Professor of Practice, 2011-2012.
- (Department) Promotion and Tenure committee, Supply Chain and Information Systems department, 2008-2009, 2010-2011, 2011-2012. Department level review of renewal and tenure cases.
- (Smeal) Promotion and Tenure committee, Smeal College of Business, 2009-2010, 2015-2016. College level review of renewal and tenure cases.
- Promotion and Tenure committee, School of International Affairs, 2012-2013.
- MBA Policy and Curriculum committee, 2011 – present
- (Smeal) Curricular Delivery Enhancements committee 2011 – 2014
- (Smeal) Honor committee 2012 – 2015
- (Smeal) Sustainability task force, 2012 – present

- (University) Academic Council on Graduate Education, 2012 – 2014
- (University) Graduate Fellowships Working Group, 2012 – 2014
- Faculty advisor for Penn State Logistics Association (undergraduate club) from 2000–2004.
- Faculty advisor for Supply Chain Management Association (MBA club) from 2003–2010.

Selected Professional Service and Memberships

- Member of Council of Supply Chain Management Professionals (CSCMP) from 2000–present
- Member of The Institute for Operations Research and Management Science (INFORMS) from 1996–present.
- INFORMS publication committee 2007-2008
- Committee to select editor-in-chief of Manufacturing and Service Operations Management (M&SOM) journal, 2008
- Senior Editor for *Production and Operations Management*, 2005–present
- Editorial board member, *Journal of Business Logistics* and *Journal of Supply Chain Management*