

Ravi Anupindi

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RESEARCH INTERESTS & TEACHING

Research Interests: Value Chain Innovation; Technology and Business Innovation; Global Supply Chain Management; Supply Chain Risk Management, Strategic Sourcing; Sustainability; Healthcare Product and Service Delivery in Low and Middle Income Countries.

Teaching: MBA, Weekend MBA, Online MBA, Executive MBA, Global MBA: Operations Management, Global Supply Chain Management, Strategic Sourcing, Innovations in Global Health Delivery, Sustainable Operations and Supply Chain Management; Executive Programs in Lean Operations and Supply Chain Management; PhD: Sustainable Supply Chains, Global Health Delivery.

EXPERIENCE

Colonel William G. and Ann C. Svetlich Professor of Operations Research and Management Faculty Director, Center for Value Chain Innovation Co-Director, Technology and Business Information Forum David B. Hermelin Professor of Business Administration Stephen M. Ross School of Business at the University of Michigan, Ann Arbor, MI	9/2016 – present 9/2017 – 7/2020 9/2015 – 8/2018 1/2012 – 8/2016
Visiting Scholar	
Graduate School of Business, Stanford University	Fall 2010
Indian School of Business, Hyderabad (India)	Winter 2011
Professor of Technology & Operations	7/2010 – present
Faculty Director, Master of Supply Chain Management	7/2006 – 6/2015
Michael R. and Mary Kay Hallman Fellow	7/2003 – 12/2011
Stephen M. Ross School of Business at the University of Michigan, Ann Arbor, MI	
Faculty Associate Donia Center for Human Rights Africa Studies Center Institute for Health Policy Innovation Center for Positive Organizations GlobalREACH, University of Michigan Erb Institute of Global Sustainable Enterprise	2019 – present 2020 – present 2017 – present 2015 – present 2012 – present 2011 – present
Associate Professor of Operations Management Stephen M. Ross School of Business at the University of Michigan, Ann Arbor, MI	7/2002 – 7/2010
Associate Professor of Operations Management Stern School of Business, New York University, New York, NY	6/2000 – 8/2002
Assistant Professor of Operations Management J.L. Kellogg Graduate School of Management, Northwestern University, Evanston, IL.	9/1993 – 8/2000
Member, Technical Services, Texas Instruments, Inc., Dallas, TX	6/1988 – 8/1988
Software Engineer, American Cimflex Corporation, Pittsburgh, PA	1/1987 – 8/1987
Software Engineer, Wipro Systems Limited, Bangalore, India	8/1984 – 8/1987
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EDUCATION

Ph.D (Management of Manufacturing and Automation)

May, 1993

Carnegie Mellon University, Pittsburgh, PA.

William Larimer Mellon Fellowship 1987-91 and Texas Instruments Fellowship, 1988-89.

M.S. (Management of Manufacturing and Automation)

May, 1989

Carnegie Mellon University, Pittsburgh, PA.

M.E. (Automation)

June, 1984

Indian Institute of Science, Bangalore, India.

B.E.(Hons.) Electrical and Electronics Engineering

June, 1982

Birla Institute of Technology and Science, Pilani, India.

PUBLICATIONS

- 1. with X. Liang and J. Li, "Generic Drug Effectiveness: An Empirical Study on Health Service Utilization and Clinical Outcomes", May 2022. Revise and Resubmit Management Science.
- 2. with I. Wang and J. Li, "Manufacturing and Regulatory Barriers to Generic Drug Competition: A Structural Model Approach", Management Science 69(3):1449-1467.https://doi.org/10.1287/mnsc.2022.4423
- 3. with F. Zhou and S. Nassiri, "Regulations for Substitutable Medical Devices", Sept 2021. Revise & Resubmit, *Management Science*.
- 4. with He, S., Bala, R., and Ranney M., "Effective supply chain surveillance for PPE", The Lancet, Correspondence, Volume 397, Issue 10286, p1706-1707, May 08, 2021
- 5. with I. Wang, J. Li, and D. Wu "When Ignorance is Not Bliss: An Empirical Analysis of Sub-tier Supply Network Structure on Firm Risk", Management Science 67(4):2029-2048. https://doi.org/10.1287/mnsc.2020.3645.
 - Winner of the 2022 Best Paper award by iFORM (Interface of Finance, Operations, and Risk Management) SIG (Special Interest Group) of the Manufacturing & Service Operations Management (M&SOM) society
- 6. with I. Barton, A. L. V. Avanceña, N. Gounden, "Unintended Consequences and Hidden Obstacles in Medicine Access in Sub-Saharan Africa", Frontiers in Public Health, 7:342. doi: 10.3389/fpubh.2019.00342
- 7. with B. Duggal, B. Gokul, M. Duggal, S. Saunik, P. Singh, A. Agrawal, K. Singh, P. Wadhera, and B. Nallamothu, "Drug-Eluting Stent Use Among Low-Income Patients in Maharashtra After Statewide Price Reductions", Circ Cardiovasc Interv. 2019;12:e007757. DOI: 10.1161/CIRCINTERVENTIONS.118.007757
- 8. with S. Devalkar and A. Sinha, "Dynamic Risk Management of Commodity Operations: Model and Analysis", *Journal of MSOM*, 20(2), *December 2018*, 317-332.
- 9. with R. Shretta, B. Johnson, S. Smith, S. Doubmia, D. de Sanvigny, and P. Yadav, "Costing the supply chain for delivery of ACT and RDTs in the public sector in Benin and Kenya", *Malaria Journal*. 2015, 14:57 doi:10.1186/s12936-014-0530-1.
- 10. with M. Pai and P. Yadav, "Tuberculosis control needs a complete and patient-centric solution", *The Lancet*, Vol 2, Issue 4, April 2014 (Published Online March 24, 2014. http://dx.doi.org/10.1016/S2214-109X(14)70198-6)
- 11. with T. London, "Using the base-of-the-pyramid perspective to catalyze interdependence-based collaborations", *Proceedings of the National Academy of Sciences;* July 31, 2012, vol. 109, no. 31, 12338–12343.
- 12. with S. Devalkar and A. Sinha, "Integrated Optimization of Procurement, Processing, and Trade of Commodities", *Operations Research*, Vol. 59, No. 6, November-December 2011, pp. 1369-1381.
- 13. with T. London and S. Sheth, "Creating Mutual Value: Lessons from Ventures Serving Base of the Pyramid Producers", Journal of Business Research, Volume 63, No. 6, June 2010. [A shorter version of this paper appeared in the Academy of Management 2009 Conference proceedings.]
- 14. with Li Jiang, "Consumer-Driven versus Retailer-Driven Search: Channel Performance and Implications". Journal of M&SOM Vol. 12, No. 1 pp.102-119 Winter 2010.
- 15. with M. Aundhe and M. Sarkar, "Healthcare Delivery Models and the Role of Telemedicine". In *Indian Economic Superpower: Fiction or Future (edited volume)*, World Scientific, Singapore, Spring 2009.

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- 16. with Li Jiang, "Capacity Investment, Flexibility and Market Competition under Demand Uncertainty". Management Science Vol.54, No.11, November 2008.
- 17. with K. Anand and Y. Bassok, "The Strategic Use Inventories in Vertical Contracts", Management Science Vol.54.No.10,October 2008.
- 18. with Y. Bassok, "Analysis of Supply Contracts with Commitments and Flexibility", Naval Research Logistics, Volume 55, No. 5, June 2008.
- 19. with S. Gupta and M. Venkataramanan, "Managing Variety on the Retail Shelf: Using Scanner Data to Rationalize Assortments". Working Paper. In *Retail Supply Chain Management: Quantitative Models and Empirical Studies* edited by N. Agrawal and S. Smith, Springer New York, Fall 2008.
- 20. with S. Sivakumar, "ITC's e-Choupal: A Platform Strategy for Rural Transformation", in *Business Approaches for Helping the World's Poor: Solutions that Create Social and Economic Value,* Eds. Brooke Barton, Herrero Gustavo, John Quelch, Kash Rangan, Jossey-Bass, December 2006.
- 21. with S. Sivakumar, "Supply Chain Reengineering in Agri-Business A Case study of ITC's e-Choupal", in *Supply Chain Issues in Emerging Economies* by Hau L. Lee and Chung-Yee Lee (Editors), Elsevier-Springer, 2006.
- 22. with D. C. Barnes and Y. Bassok, "Optimized Delivery Leadtime / Inventory Placement in a Two-Stage Production Distribution System", European Journal of Operations Research, Volume 174, Issue 3, November 2006, pages 1664-1684.
- 23. with D. C. Barnes and Y. Bassok, "Coordination and Flexibility in Supply Contracts with Options", Journal of Manufacturing and Service Operations Management, Volume 4, Number 3, Summer 2002.
- 24. with Y. Bassok, and E. Zemel, "A General Framework for the Study of Decentralized Distribution Systems", Journal of Manufacturing and Service Operations Management, Volume 3, No. 4, Fall 2001. [This paper is based on an earlier working paper titled "Study of Decentralized Distribution Systems: Part I A General Framework", July 1999]
- 25. with K. Anand and Y. Bassok, "Inventories versus Incentives in a Supplier-Retailer Contract", MSOM Conference Proceedings, University of Michigan, Ann Arbor, June 2000.
- 26. with Y. Bassok, "Centralization of Stocks: Retailers vs. Manufacturer", Management Science, Volume 45 No. 2, 1999.
- 27. with Y. Bassok and R. Akella, "Single Period Multi-Product Inventory Models with Substitution", *Operations Research*, Volume 47 (4), 1999.
- 28. with M. Dada and S. Gupta, "Estimation of Consumer Demand with Stock-out based Substitution: An Application to Vending Machine Products", Marketing Science, Volume 17, No. 4, 1998.
- 29. with Y. Bassok, "Supply Contracts with Quantity Commitments and Stochastic Demand", in *Quantitative Models in Supply Chain Management* by S. Tayur, M. Magazine, and R. Ganeshan (Eds.), Kluwer Academic Publishers, 1998.
- 30. with Y. Bassok, "Approximations for Multi-product Contracts with Stochastic Demands and Business Volume Discounts: Single Supplier Case", IIE Transactions, Volume 30, Number 8, August 1998.
- 31. with S. Tayur, "Managing Stochastic Multi-Product Systems: Model, Measures, and Analysis", *Operations Research*, Volume 46 (Supplement), Number 3, May-June 1998.
- 32. *with* Y. Bassok, "Analysis of Supply Contracts with Total Minimum Commitments", *IIE Transactions*, Volume 29, No. 5, May 1997.
- 33. with T.E. Morton and D. Pentico, "The Non-Stationary Stochastic Lead-Time Inventory Problem: Near-Myopic Bounds, Heuristics, and Testing", Management Science, Vol. 42, No.1, 1996.
- 34. with Y. Bassok, "Analysis of Supply Contracts with Total Minimum Commitments and Flexibility", *In Proceedings of the 2nd International Symposium on Logistics*. University of Nottingham, UK, June 1995.
- 35. with R. Akella, "Diversification Under Supply Uncertainty", Management Science, Vol. 39, No. 8, 1993.
- 36. with H. Gurnani and R. Akella, "Control of Batch Processing Systems in Semiconductor Manufacturing Systems", *IEEE Transactions in Semiconductor Manufacturing*, Volume 5, No. 4, November, 1992.

SUBMITTED / UNDER REVISION / WORKING PAPERS

- 1. with J. Chestnut, "Shared Supplier Capacity as a Barrier to Socially Responsible Sourcing", January 2023
- with J. Chestnut and H.S. Ahn, "Giving Away to Increase Profits? Price Discrimination and the Effect of Free Goods". Revised May 2021.

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- 3. with M. Dada and S. Gupta, "Consumer Demand with Stock-out Based Substitution: Estimation and Empirical Application", Working paper. (An abridged version of this appeared in *Marketing Science*, Volume 17, No. 4.)
- 4. with R. Akella, "An Inventory Model with Commitments", Working paper. 1993.

BOOKS

- 1. with S. Chopra, S. Deshmukh, Jan van Mieghem, and E. Zemel, Managing Business Process Flows: Principles of Operations Management, 3rd Edition, Pearson Prentice Hall, Inc. 2012. (A text for MBA Operations Core class).
- with Prashant Yadav, Kenisha M.P. Jefferson, and Elizabeth Ashby (Editors), <u>Globally Resilient Supply Chains</u> for <u>Seasonal and Pandemic Influenza Vaccines</u>, Consensus Study report of the National Academies of Sciences, Engineering, and Medicine, November 2021.

TEACHING MATERIAL

[A summary of my select case study and practice articles is available <u>here</u>.]

- 1. with L. Scoles, "Eye in the Sky: A Study of the Commercial Drone Ecosystem", conceptual note 4-585-136, WDI Publishing, June 2021.
- 2. with L. Scoles, "SkySpecs: A New Horizon for Wind Energy", Teaching case 1-816-287, WDI Publishing, July 2021.
- 3. with L. Scoles, "SkySpecs: A New Horizon for Wind Energy", Teaching Note 1-816-287, WDI Publishing, July 2021.
- 4. with Brett Zeuner, "Should a supplier for US-made electric vehicles invest in cobalt traceability?", Michigan Sustainability Cases, September 2020.
- 5. "Michigan Dining: 20% Local by 2025", Teaching case # 3-589-225 with Teaching Note, January 2019. WDI Publishing.
- 6. with A. Hoffman, "Dell: Upcycling Ocean Plastic Through Supply Chain Innovation". Teaching case # 7-949-121 with Teaching Note, June 2018, WDI Publishing.
- 7. with A. Chavali, "Delivering Health Care in Rural India: ITC-CARE experience", Teaching case. Case 1-429-319. June 2015. William Davidson Institute/GlobaLens Publishing.
- 8. "PT Kizone: Adidas Battles Allegations of Shirking Responsibility to Workers (A)", Teaching case. Case 1-429-306. Oct 2014. William Davidson Institute/GlobaLens Publishing.
- 9. "PT Kizone: Adidas Battles Allegations of Shirking Responsibility to Workers (B)", Teaching case. Case 1-429-403. Oct 2014. William Davidson Institute/GlobaLens Publishing.
- 10. "Operation ASHA: An Effective, Efficient and Scalable Model for Tuberculosis Treatment", Teaching case. Case 1-429-339. March 2013 (revised March 2014). William Davidson Institute/GlobaLens Publishing.
- 11. with K. Sikarwar, "Voluntary Producer Responsibility Carton Recycling in the US", Teaching case. Case 1-429-338. April 2013 (Revised March 2014). William Davidson Institute/GlobaLens Publishing.
- 12. "Teaching Note: Voluntary Producer Responsibility Carton Recycling in the US", March 2014. TN 1-429-338 William Davidson Institute/GlobaLens Publishing.
- 13. Interview with Joe Bozich, CEO of Knights Apparel. November 2013. Center for Positive Organizations, Ross School of Business at the University of Michigan.
- 14. Interview with Alan Murray, CEO of Next Foods Inc. December 2013. Center for Positive Organizations, Ross School of Business at the University of Michigan.
- 15. with E. Svaan, "Note on the Toyota Production System", note 1-429-245. September 2013. William Davidson Institute/GlobaLens Publishing.
- 16. with Colm Fay, "Abt Associates: Scaling Indoor Residual Spraying for Malaria Prevention in Africa", Teaching case. February 2013. Case 1-429-272. William Davidson Institute/GlobaLens Publishing.
- 17. "Cisco SCRM in action: 2011 Tōhoku earthquake Video interview with case protagonist". February 2013.
- 18. "Cisco SCRM in action: 2011 Tōhoku earthquake", Teaching case. February 2013. Case 1-429-284. William Davidson Institute/GlobaLens Publishing.
- 19. "Supply Chain Risk Management at Cisco: H1N1 Response Video interview with case protagonists". December 2009.

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- 20. "Supply Chain Risk Management at Cisco: H1N1 Response", Teaching case. December 2009. Case 1-428-881. William Davidson Institute/GlobaLens Publishing.
- 21. "Boeing The Fight for Fasteners", Teaching case. November 2009. Case 1-428-787. William Davidson Institute/GlobaLens Publishing.
- 22. "Maritime Transportation: The Global System of Shipping and Ports". Technical Note. December 2008. Note 1-428-712. William Davidson Institute/GlobaLens Publishing.
- 23. with S. Devalkar, Nova Incorporated, Ross School of Business, Teaching case. January 2008.
- 24. with S. Devalkar, "Managing the Financial Supply Chain", Technical Note. Ross School of Business, November 2007.
- 25. Glenview Supply Company, Ross School of Business, Teaching case, September 2006.
- 26. with Boyd Smythe, "Call Centers and Rapid Technological Change", Technical Note, June 1997 (Kellogg #7-106-001); distributed by Harvard Business School Publishing.
- 27. with Y. Bassok, and E. Zemel, "BeerNET: Remote Group Software for Studying Supply Chain Dynamics (A User Manual)", Stern School of Business, New York University, New York, NY 10012.
- 28. with M. Panley, "ChipCo: Outsourcing MRO Management", Stern School of Business, New York University, New York, NY 10012.
- 29. "Ordering Multiple Products with Demand Uncertainty under Capacity Constraints", Teaching Note, Kellogg Graduate School of Management, Northwestern University, July 1997.
- 30. with Julie Hodges and Peter Walter, "Automated Storage and Retrieval Systems: An Overview of User Considerations and Business Applications", Teaching Note, May 1997.
- 31. with E. Zemel, "Greasex, Inc.", Summer 1996 (A Microsoft Excel based simulation experiment for process control).

PRACTICE ARTICLES

- 1. <u>Fast fashion still comes with deadly risks, 10 years after the Rana Plaza disaster the industry's many moving pieces make it easy to cut corners, The Conversation, April 2023.</u>
- 2. with Yadav P. and T. Johnston, "The G20 Needs to Address the Lack of Coordination in the Global Vaccine Supply Chain for Pandemic Preparedness" Blog, Center for Global Development, April 24, 2023.
- 3. with Yadav, P. and others, <u>Vaccine supply chains: priority areas of action emerging from the COVID-19 pandemic, Commentary</u>, <u>Vaccine Insights</u> 2023; 2(2), 59–66, DOI: 10.18609/vac.2023.011
- 4. with Yadav, P. and Ashby, E., "Keep It Moving! Maintaining the Global Vaccine Supply Chain", TR News, November-December 2022.
- 5. with S. Devalkar, O. Ross and S. Srinivasan, "<u>Deep Tier Financing with Blockchain Technology</u>", Working paper, June 2022.
- 6. with A. Karnani, A. Chatterjee, H.M. Caldwell, S. Ramaswamy, A. Ural, "What is the best prescription for our health care system? Part I: Do incumbents in the US health care industry", E&Y Publication, December 2021. https://www.ey.com/en_us/health/what-is-the-best-prescription-for-our-health-care-system
- 7. with A. Karnani, A. Chatterjee, H.M. Caldwell, S. Ramaswamy, A. Ural, "What is the best prescription for our health care system? Part II: Does the US consume more services compared to peer nations?", E&Y Publication, February 2022. https://www.ey.com/en_us/health/what-is-the-best-prescription-for-our-health-care-system
- 8. with D. Agarwal, and S. Ansett, "A Road Map to a Responsible and Resilient Global Apparel Value Chain", SSRN, October, 2021.
- 9. "How a vial of Pfizer COVID-19 vaccine travels from a lab in Missouri to an arm in Bangladesh", The Conversation, August 2021.
- 10. with S. He, R. Bala, and M. Ranney, "Effective supply chain surveillance for PPE", Correspondence, The Lancet, Vol. 397, May 8, 2021
- 11. <u>Statement to the U.S. SENATE COMMITTEE ON HOMELAND SECURITY & GOVERNMENTAL AFFAIRS</u>: "COVID-19 Part II: Evaluating the Medical Supply Chain and Pandemic Response Gaps", May 2021.
- 12. <u>Principal to Principal Global Supply Chain Task Force: Reimagining the Global Supply Chain Post Covid-19</u>, Final Report. May 2021. http://principaltoprincipal.us/news-announcements/

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- 13. with J. Xie and E. Block, "The Families First Marketplace Fostering Local Economic Growth and Health Through Food Assistance", May 2021
- 14. with L Schroeder, R. Dewar, S. Rajaram, and E. Edkins, "COVID-19 Testing Scale-Up: Key Issues and Considerations for Michigan Policymakers", IHPI Policy Sprint, October 2020.
- 15. Moving Up in the World, Medical Device Developments, June 2015.
- 16. with T. London, "Revisiting value chain initiatives: Insights from the Base of the Pyramid Perspective", Report submitted to the U.S. Agency for International Development under the terms of Agreement No. M0-022. April 2011.
- 17. with S. Sivakumar, "ITC's e-Choupal: A Platform Strategy for Rural Transformation (unabridged)", October 2005. [Paper presented at *Business Solutions for Alleviating Poverty (BSAP) Conference*, Social Enterprise Initiative, Harvard Business School, December 1-3, 2005.]

WORK-IN-PROGRESS

RESEARCH

- 1. with X. Liang and J. Li, "An empirical study of structure of the US drug supply chain"
- 2. with A. Karnani, S. Ramaswamy, and A. Chatterjee, "US Healthcare cost structure a critical review (Tentative)".
- 3. with N. Pathy and P. Yadav, "Modeling to Understand the Epidemiological Impact and Market Impact of Harmonized Regimens for MDR-TB".
- 4. with M. Wilson, D. Hutton and P. Yadav, "Optimizing resource allocation across multiple interventions for malaria prevention and control and enhancing overall cost-effectiveness".
- 5. with S. Devalkar and A. Sinha, "Integrated Optimization of Procurement, Processing and Trade of Commodities in a Network Environment".
- 6. with S. Sivakumar, "A Platform Strategy approach to Rural Transformation".
- 7. with Y. Bassok, and E. Zemel, "Allocation Mechanisms for Decentralized Distribution Systems: Duopoly and Oligopoly Models". Working paper.

TEACHING MATERIAL / CURRICULUM DEVELOPMENT

- 1. "Clean by Design (Tentative)". Teaching case. In Progress.
- 2. "TCF Eye Hospital: Implementing Aravind Model in Africa". In Progress

DOCTORAL ADVISING / COMMITTEE MEMBER

- 1. Fan Zhou (co-chair with Shima Nassiri). Ross School of Business, Univ. of Michigan. Expected completion April 2025.
- 2. Xinyu Liang (co-chair with Jun Li). Ross School of Business, Univ. of Michigan. Expected completion April 2025.
- 3. Calli P. VanderWilde (member of dissertation committee), "The Political-Industrial Ecology of Palm Oil from Guatemala", School of Environment & Sustainability, Univ. of Michigan. Expected completion May 2024.
- 4. Brinda Gokul (member of dissertation committee), "Wealth Inequality Dynamics: Preliminary Insights from an Agent-Based Model", School of Information, University of Michigan. Expected completion April 2024.
- 5. Kenneth H.Y. Chung (member of dissertation committee), "Capital Conditioning to Scale Adoption of Regenerative Agriculture", College of Engineering, University of Michigan. October 2022.
- 6. 2021: Sanaz Chamanara (member of dissertation committee), "Environmental Justice and Governance Dynamics of Beef Supply Chains: A spatially-explicit life cycle approach", School of Environment & Sustainability, Univ. of Michigan. First placement University of California, San Diego.
- 7. 2019: Jacob Chestnut (co-chair Hyun-Soo Ahn), "Doing Well By Doing Good: Essays in Service Operations", Ross School of Business, Univ. of Michigan. Completed April 2019; first placement, Assistant Professor, Cornell University.
- 8. 2019: Francisco J. Aldarondo Valle (PhD Committee), "Design and Operational Analysis of Automated Guided Vehicle-Based Goods-to-Person Order Picking and Sortation Systems", Department of Industrial and Operations Engineering, Univ of Michigan.
- 9. 2018: Iris Wang (co-chair with Jun Li), "Managing Supply Disruptions Empirical Analysis of Supply Chain Management", Ross School of Business, Univ. of Michigan. Completed June 2018; first placement, Assistant Professor, University of Illinois, Urbana Champaign.

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- 10. 2017: Yong Hyun Kim, (PhD committee), "Global Supply Chain Sustainability in the Mobile Handset Industry", Ross School of Business, Univ. of Michigan.
- 11. 2011: Sripad Devalkar (PhD; co-chair with Amitabh Sinha), "Essays in optimization of commodity procurement, processing and trade Operations", Ross School of Business, Univ. of Michigan. First appointment Indian School of Business, India
- 12. 2008: Sanjeev Kumar (PhD committee), Ross School of Business, Univ. of Michigan.
- 13. 2007: Ling Wang (PhD Committee), "Essays on Joint Operational and Marketing Decisions in Individual firms and Supply Chains", Ross School of Business, Univ of Michigan.
- 14. 2006: Li Jiang (PhD; Chair), "Matching supply with demand in decentralized multi-location systems", Ross School of Business, Univ. of Michigan. First appointment at The Hong Kong Polytechnic University, Hong Kong
- 15. 1996: Sanjay Melkote (Ph.D committee), Northwestern Univ.
- 16. 1996: Dawn-Barnes Schuster (Ph.D., co-chair with Yehuda Bassok), Northwestern University. First appointment at University of Chicago.
- 17. 1995: Ronald Lembke (Ph.D committee), Northwestern Univ.

MASTERS STUDENTS

- 2022: Greg Allison, Jess Halter, Amy Schatz, Annie Zaro, "Preferred Fiber Product Mapping and Climate Impact Assessment" (Client: prAna Living LLC), Masters Practicum, School of Environment and Sustainability, Univ. of Michigan.
- 2. 2020: Joe Garcia, Leah Gustafson, Gregory Phillips, Elizabeth Rees, Richard Wozniak, "Transforming Protein: Land-Use Implications of a Transition to Plant-Based Meat" (Client: Impossible Foods), Masters Practicum, School of Environment and Sustainability, Univ. of Michigan.
- 3. 2018: Lauren Baum, Madeleine Carnemark, Daniel Partin, and Kathy Tian; advisor for "Defining Characteristics of a Sustainable Coffee Supply Chain" (Client: Califia Farms), Masters Practicum, School of Environment and Sustainability, Univ. of Michigan.
- 4. 2017: Caroline Lucas, Kaitlyn Klingensmith, Edwin Willig, and Kimberley Irby; advisor for "Understanding Private Sector Risk to Climate Change and Designing Guidance for Engagement" (Client: World Wildlife Fund), Masters Practicum, School of Environment and Sustainability, Univ. of Michigan.
- 5. 2014: Michael Rockett (MBA/MS Erb Institute); advisor for "Sustainable Supply Chain Investment: Is There Evidence to Support Keurig Green Mountain's Livelihoods Theory of Change?" (Client: Keurig), Masters Practicum, School of Natural Resources and Environment, Univ. of Michigan.
- 6. 2011: Arthur Peterson, Jamie Mikkelsen, Lisa Ingmarsson, and Christina Bosch (MBA/MS Erb Institute); thesis coadvisor for Ford Supply Chain Carbon Mapping, Univ. of Michigan.
- 7. 2004: Monique Joy Barry (M.S. in Resource Ecology and Management; thesis co-advisor), Univ. of Michigan.

GRANTS

- Great Lakes Protection Fund (GLPF) & Foundation For Food and Agriculture Research (FFAR), 2023-26. Performance-Based Financing Models for Sustainable Agriculture in the Great Lakes Basin (\$1,200,000; joint-PI with Peter Adraeins)
- C.K. Prahalad Research Award, 2022. Scaling & Replicating Aravind Model of Eyecare outside India (\$8,000).
- Robert Wood Johnson Foundation. 2021-22. Protect Food Workers in University Purchasing. Sub-grantee. (\$25,000).
- Great Lakes Protection Fund. 2021. Financial Mechanisms and the Conditioning of Lending and Capital Flows in Agriculture Supply Chains for Farm-Based Nutrient Performance (\$100,000; co-PI with Peter Adraeins & Jon Allan)
- Erb Institute of Sustainable Enterprise. 2020. Approaches to Assessing Corporate Performance on Social Responsibility (\$4,000)
- Institute of Health Policy Innovation (IHPI) Policy Sprint. 2020. Scale Up of COVID-19 Diagnostic Testing: A Framework for Decision-Makers. (\$3,000)
- LLamasoft. 2019. Assessment of supply chain design capability, its key determinants and business value. (\$205,140)
- National Health Authority, Government of India. 2019. *INdia Stent Performance ImpRovement & Evaluation (INSPIRE) Program*. Member of Scientific Committee on a Memorandum of Understanding along with the All India

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Institute of Medical Sciences (India), University of Michigan and Indian Institute of Information Technology. (INR 1,600,000); this funding allows only travel support for me.

- Johnson & Johnson. 2019. *Algorithms for Production Allocation and Sequencing using the Rhythm Wheel Concept.* (\$119,596; co-PI with Xiuli Chao and Roman Kapuscinski)
- Chemonics International. 2018. Temperature sensor data analysis and visualization. (\$19,989; co-PI with Sanjeev Kumar)
- General Motors Company. 2017. Sub-Tier Network Structure Research Collaboration. (\$87,291; co-PI with Jun Li)
- NSF: Gaining Visibility into Supply Network Risks with Large-Scale Textual Analysis. (\$177,030; co-PI with Jun Li)
- TB Modeling and Analysis Consortium. 2014. *Modeling to understand the epidemiological impact and market impact of harmonized regimens for MDR-TB* (\$97,500; co-PI with N. Pathy and P. Yadav)
- Mcube. University of Michigan. 2013. Optimizing resource allocation across multiple interventions for malaria prevention and control and enhancing overall cost-effectiveness. (\$60,000; co-PI with M. Wilson and D. Hutton)
- Tauber Institute of Global Operations. 2012. Social Issues in Supply Chains. (\$5,000)
- Erb Institute of Sustainable Enterprise. 2012. Voluntary Producer Responsibility (\$10,000)
- Bill and Melinda Gates Foundation. 2010. Base of the Pyramid Perspective. (\$10,000 with T. London).
- US Agency for International Development. 2009. Comparing Base of the Pyramid and Value Chain Approaches to Poverty Alleviation (\$102,782 with T. London)

SERVICE

PROFESSIONAL

President, College of Supply Chain Management, Production and Operations Management Society, 2014-2016.

Associate Editor for Operations Research (2001-), Journal of Manufacturing and Service Operations Management (2006-2018), Naval Research Logistics (2003-2010), Management Science (2000-2008), OR Letters (2002-04), IIE Transactions: Scheduling and Logistics (1998-).

Senior Editor for the Journal of Manufacturing and Service Operations Management (2002-2005), Production and Operations Management (2009-2017).

Guest Editor for *Sadhana: Special Issue on Competitive Manufacturing Systems*. Sadhana is the Academy Proceedings in Engineering Sciences and published by the Indian Academy of Sciences, Bangalore, India.

Ad hoc Referee for: Management Science, Operations Research, IIE Transactions, European Journal of Operations Research, Journal of Production and Operations Management, Journal of Operations Management, Journal of Flexible Manufacturing Systems, Naval Research Logistics, Information Systems Research, Journal of Manufacturing and Service Operations Management.

Vice-President for Meetings, MSOM Society, 2002-2003

Invited to be a Specialist Referee for the Hong Kong Research Grants Council (RGC).

UNIVERSITY OF MICHIGAN

Chair (2013-present), Vice-Chair (2012-13), and **Member (2011-12)** *President's Advisory Committee on Labor Standards and Human Rights at the University of Michigan.*

Member, Institute Leadership Team, Institute for Health Policy and Innovation (2022-)

Member, Search Committee – Associate Vice President for Campus Sustainability (2023-)

Member, Selection Committee – University of Michigan's Thomas Francis Jr. Medal in Global Public Health (2022)

Member, Fulbright Fellowship Interview Panel (2022)

Faculty Advisor, Global Vaccine Equity Ideas Lab, Center for Global Health Equity (2022)

Faculty Director, Center for Value Chain Innovation (CVCI). 2017 – 2020.

Co-Director, Technology and Business Information Forum, Ross School of Business (2014 – 2018)

Faculty Director, Master of Supply Chain Management (MSCM) program. 2007 – 2015.

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Member, Executive Committee, Tauber Institute of Global Operations, 2012 – 2015.

Member, Executive Committee, Ross School of Business, 2011 – 2013.

Member, ABL Committee (2013 – 15); Curriculum Committee (2005 – 2009); MAP Committee (2009 – 2010), One Year Program Committee (2018 – present), WMBA Curriculum Review Committee (2021-22)

Member, President's Commission on Carbon Neutrality Food Workstream Implementation (2022); Integrated Disability Management Services Review Committee, University of Michigan (2022)

Advisor to the William Davidson Institute for South Africa Logistics Excellence and Transportation Training Initiative (SALETTI): A project to assist University of Johannesburg to develop a new Master program in Supply Chain Management; funded by USAID, 2009-2011.

Mentor for UM African Presidential Scholars Programs (UMAPS); mentoring Leah Z.B. Ndanga from Feb – August 2009.

Coordinator, Hosmer Lunch, 2003-05.

Member, Rackham Pre-Doctoral Fellowship Awards Committee (Division III), 2004 & 2005.

EXECUTIVE EDUCATION

- 1. Taught session on **Value Chain Integration** in the **Berry Global Sustainability Program** at the Ross School of Business Executive Program, August 2019.
- 2. Taught session on **Innovations in Risk Management** in the **Global Supply Chain Innovation Program** at the Ross School of Business Executive Program, September 2017.
- 3. Presentation on Supply Chain Management for the SABIT Program, US Department of Commerce, March 2017.
- 4. Taught **custom programs** in: **Supply Chain Management** for Dell Inc., GE, Wilson Sporting Goods, Raymonds Group (India); **Lean Logistics** for Schlumberger.
- 5. Taught a session on Industry 4.0 for the CDB Industrial Upgrading & Financial Innovation 2015 program.
- 6. Faculty co-director (with Brian Talbot) of Leadership in Plant Operations, University of Michigan (2004-2008).
- 7. Taught in **Supply Chain Management** programs at the University of Michigan and the Kellogg School of Management.
- 8. Taught in the Lean Logistics Certificate program at the University of Michigan
- 9. Taught the Operations Management module for the AT Kearney management fundamentals program (2002-04)
- 10. Executive MBA Program, Stern School of Business, New York University.

ADDITIONAL INFORMATION

Recognized as P&Q's Favorite MBA Professors from the Class of 2020

Recipient 2019 Ross School of Business Neary Teaching Excellence Award, Ross School of Business

Recipient 2019 Ross School of Business Victor L. Bernard Teaching Leadership Award, Ross School of Business

Recipient 2015 CORE (Contribution to Research Environment) Award, Ross School of Business

Member of the Board of Global Health, National Academies of Science, Engineering, and Medicine (2020-)

Co-Chair, NASEM Committee on Addressing Issues of Vaccine Distribution and Supply Chains to Advance Pandemic and Seasonal Influenza Preparedness and Response (2021)

Member of the Board, The William Davidson Institute (2014-)

Member of the Board, The Fair Labor Association (2019-), FLA Europe (2022-)

Member Fair Labor Association Agricultural Committee (2019-); Fair Labor Association Audit Committee (2021-)

Member, Global Supply Chain Task Force, co-chaired by Congressman Joe Crowley and former Congressman Mike Rogers (2021-); Phase I focused on Health Commodities for Pandemic Response; Phase II is focused on Emerging Technology: Semiconductors, batteries and rare earth minerals.

Member of Advisory Board, ProjectStanley (2020-)

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Technical Advisor, Vital Ocean (2017-)

Member of Board, Every Infant Matters Partners (2021 -)

Member of Advisory Board & Executive Committee People that Deliver Initiative for Global Health (2012-2015)

Participated the **US Speaker's Bureau, US Department of State**; invited by US Embassy, Democratic Republic of Congo, November 2018.

Member Technical Committee and Working Group, American National Standard on "Supply Chain Risk Management: A Compilation of Best Practices" (2012-14)

Member Fair Labor Association Agricultural Working Group (2015-2019)

Member: The Institute for Operations Research and Management Sciences (INFORMS); Manufacturing and Service Operations Management Society (MSOM); Production and Operations Management Society (POMS), Council for Supply Chain Management Professionals (CSCMP); Institute of Supply Management (ISM); Supply Chain Risk Leadership Council (SCRLC).

Invited speaker to the **Digital Manufacturing and Design Innovation Institute (DMDII) Supply Chain Workshop**, Chicago (2017).

Invited to the Global Health Supply Chain Summit, Zaragoza, Spain (2008, 2009), USC, Los Angeles (2011).

Annual Global Health Supply Chain Summit (GHSCS):

- Program Committee: Addis Ababa, Ethiopia (2013), Copenhagen, Denmark (2014), Dakar, Senegal (2015), Dares Salaam, Tanzania (2016), Accra, Ghana (2017).
- Co-Chair: Lusaka, Zambia (2018), Johannesburg, S. Africa (2019), Virtual (2020), Virtual (2021), Dakar (2022)

Invited to the **Thought Leaders Roundtable on Supply Chain Management** Harvard University, August 2000; INSEAD, August 2001; Como, Italy, July 2002; Santa Fe, New Mexico, July 2003; Woodstock, Vermont, August 2004; Heidelberg, Germany, July 2005; St. Louis, July 2006; Kobe, Japan, June 2007; Madrid, Spain, June 2008; San Jose, Costa Rica, 2009, Breda, Netherlands, 2010), Beijing (2011), Istanbul (2012), Los Angeles (2013), Helsinki (2014), Seoul (2015), Cincinnati (2016), Portugal (2018), Seattle (2019), Hanoi, Vietnam (2023).

Invited speaker at the International Workshop on IT Enabled Manufacturing, Logistics and Supply Chain Management, Bangalore, India (December 15-16, 2003), 9th Logistics Conference, Istanbul, Turkey (March 2007).

Invited to Longitudes 04: Mapping the New World of Synchronized Commerce, April 28-29, 2004, Longitudes 05: Synchronizing Global Networks for Growth, April 27-28, 2005. (Longitudes is jointly hosted by UPS and Harvard Business School Publishing).

Invited speaker at the First East Coast Roundtable on Operations Research in E-Business, MIT, March 2001.

Invited speaker for World Trade Magazine webinar series on Supply Chain Management (2006 & 2007).

Recipient of Operations Research Meritorious Service Award, 1996, 2002, 2007.

Consulting and Speaking Engagements: ConAgra, Mercury Marine, Tracelink, Pfizer, GE Aviation, Cummins, PT Sewu Segar Nusantara (Indonesia), Chrysler, ABInBev, Cummins, Inc., Acumen Fund, Schlumberger, Boeing Commercial Airplanes, GE Energy, Cordis Corp., Dell, Intel, Target Corp., USG Corporation, Wal-Mart, K-Mart, IBM, Digital Knowledge Associates, RealTimeData Inc., McDonald's Corp., Budget Group Inc., Deloitte & Touche, National Association of Chain & Drug Stores, Kellogg Alumni Association of Chicago, Carnegie Bosch Institute, ITC Group International Business Division (India), Tata Refractories Limited (India).

Board of Advisors: Distributed World Power Inc., Pasadena, CA (2009-10).

REFERENCES

Available upon request.

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