Apurva Shrey

PhD Candidate, Operations & Sourcing Management
Eli Broad College of Business, Michigan State University
shreyapu@msu.edu | apurvashrey.com | Google Scholar | LinkedIn

Education

Doctor of Philosophy in Operations and Sourcing Management *2022-Present*
Michigan State University, East Lansing, Michigan
Department of Supply Chain Management, Eli Broad College of Business
Dissertation: *Innovation and Adaptation in Buyer-Supplier Relationships: Three Essays on Technological and Institutional Change*

Post Graduate Diploma in Industrial Engineering (equivalent to M.Tech.) *2016-2018*
Indian Institute of Management Mumbai (formerly NITIE Mumbai), Mumbai, India
Master's thesis: *Supply Chain Startups in India: A Cross-Case Comparative Analysis*

Bachelor of Engineering in Mechanical Engineering *2010-2014*
Manipal Institute of Technology, Manipal University, Manipal, India

Research Interests and Methods

Research interests: Technology and innovation; buyer-supplier relationships; supply chain networks; supply chain innovation; operational performance.

Methods: Econometrics; causal inference; quasi-experimental designs; difference-in-differences; machine learning; graph neural networks.

Dissertation Research

Bridging or Leaping? How Suppliers Respond to a Buyer's Technological Transition
with Adrian Choo and Sri Talluri
Status: Manuscript in preparation for submission to *Production and Operations Management*

- Studies how the buyer technological transition triggered by an exogenous shock affects supplier innovation.
- Uses a quasi-experimental difference-in-differences design to estimate changes in supplier innovation following the buyer's transition.
- Explains how suppliers adapt when a buyer suddenly shifts to a new technology, extending research on buyer-supplier innovation.

Supplier Intellectual Property Protection and Supply-Base Reconfiguration
with Adrian Choo, Sri Talluri, and Anjana Susarla
Status: Data analysis in progress

- Studies how buyers adjust their supply bases when legal protection for their suppliers' innovation weakens.
- Uses a legal event that weakened protection for certain types of patents as a source of variation.
- Applies a difference-in-differences design with continuous treatment exposure to panel data from FactSet, Compustat, and PatentsView.

Innovation Knowledge Across Supply Chain Boundaries
with Adrian Choo and Sri Talluri
Status: Research in progress

- Examines how external institutional changes affect buyers' use of technological knowledge from established suppliers relative to other external organizations.
- Uses staggered policy changes as a source of variation and tracks buyers' use of technological knowledge from external sources.
- Applies a staggered difference-in-differences design to several archival datasets.

Non-Dissertation Work

Substitutability Risks in Automotive Supply Chains
with Adrian Choo, Sri Talluri, and Anjana Susarla
Status: Research in progress

- Defines substitutability risk as uncertainty in finding alternative materials or suppliers.
- Evaluates risk through supplier concentration, technological and intellectual-property constraints, and geopolitical and geographical factors.
- Develops a supplier-level measure using machine-learning methods and data from company reports, supply chain disclosures, and industry databases.
- Identifies indicators of substitutability risk that may not be captured by conventional supply chain risk measures.

Publications

Peer-Reviewed Book Chapter

Bhattacharyya, S. S., and **A. Shrey**. (2021). "Supply Chain Startups in India: A Cross-Case Comparative Analysis." In *Research Anthology on Small Business Strategies for Success and Survival*, 1014-1039. IGI Global. doi:10.4018/978-1-7998-9155-0.ch050.

Research Reports and Working Papers

Dutt, A., **A. Shrey**, and D. Roy. (2023). "Changing Landscape of Logistics in India with Multimodal Logistics Parks." Indian Institute of Management Ahmedabad.

Shrey, A., A. Dutt, and D. Roy. (2022). "Impact of COVID-19 Disruptions on the Supply Chain: Insights from India." IIMA Working Paper WP 2022-06-01, Indian Institute of Management Ahmedabad. EconPapers; IIMA PDF.

Conference Talks

Bridging or Leaping? How Suppliers Respond to a Buyer's Technological Transition

Decision Sciences Institute Annual Conference	San Francisco, CA	Nov. 2026 *(scheduled)*
INFORMS Annual Meeting	San Francisco, CA	Nov. 2026 *(scheduled)*
Production and Operations Management Society Annual Conference	Reno, NV	May 2026 *(presented)*
Production and Operations Management Society Annual Conference	Atlanta, GA	May 2025 *(presented)*
Decision Sciences Institute Annual Conference	Atlanta, GA	Nov. 2023 *(presented)*

Substitutability Risks in Automotive Supply Chains

Decision Sciences Institute Annual Conference	Orlando, FL	Nov. 2025 *(presented)*

Research Experience

Research Assistant *Aug. 2022-Present*
Department of Supply Chain Management, Michigan State University

Research Associate, Centre for Transportation and Logistics *July 2021-July 2022*
Indian Institute of Management Ahmedabad, Ahmedabad, India

- Studied the impact of COVID-19 disruptions on supply chains in India, resulting in an IIMA working paper.
- Co-authored an IIMA working paper on multimodal logistics parks and India's changing logistics landscape.

Graduate Researcher *Jan. 2018-May 2018*
Indian Institute of Management Mumbai (formerly NITIE Mumbai), Mumbai, India

Teaching Experience

Instructor of Record: Manufacturing and Service Operations *Spring 2025*
Department of Supply Chain Management, Michigan State University
Course quality rating: 4.0/5

- Served as the instructor and taught the course independently.
- Designed the syllabus and developed the instructional materials.
- Designed the evaluation metrics and course assessments.
- *Student testimony:* "engaging lectures, always answered questions, had great examples."

Teaching Assistant: Introduction to Supply Chain Management *2022-2023*
Department of Supply Chain Management, Michigan State University

- Served as a program reviewer and grader.
- Developed a course-wide question bank spanning multiple levels of difficulty.

Teaching Assistant: Operations and Industrial Engineering Courses *2016-2018*
Indian Institute of Management Mumbai (formerly NITIE Mumbai), Mumbai, India

Selected Awards and Consortia

POMS Doctoral Consortium *2025*
Atlanta, Georgia

Finalist, "Lakshwiz: Factory" *2017*
National operations case competition, Lakshya
Indian Institute of Management Mumbai (formerly NITIE Mumbai)

Highest GPA (10/10) in the cohort *2018*
Final-semester postgraduate project
Indian Institute of Management Mumbai (formerly NITIE Mumbai)

Graduate Aptitude Test in Engineering (GATE) *2015*
98.6 percentile among more than 200,000 candidates

Academic Service and Memberships

Member *Dec. 2024-Present*
Journal of Operations Management Emerging-Scholar Ambassadorial Core (ESAC) member from Michigan State University

Conference Reviewer *2025, 2026*
Decision Sciences Institute Annual Conference

Professional Memberships
Institute for Operations Research and the Management Sciences (INFORMS); Production and Operations Management Society (POMS); Decision Sciences Institute (DSI)

Doctoral Coursework

Methodology: Cross-Section and Applied Econometrics; Causal Inference; Machine Learning and Text Analytics; Analytical Strategies for Observational Studies; Time Series Analysis; Organizational Research Methods.

Doctoral seminars: Supply Chain Theory; Procurement and Sourcing; Empirical Research in Operations Management; Analytical Research in Operations Management.

Selected Industry Experience

Materials Manager *2018-2019*
Asian Paints Ltd., Ankleshwar, India

- Planned and executed finished-goods dispatches across more than 600 SKUs and coordinated imported-material and export flows using SAP ECC and EWM.
- Maintained zero stock variance through cycle counting and process validation while monitoring dispatch accuracy and critical-SKU fulfillment.
- Reduced reprocessing and damaged finished-goods stock by 43% using DMAIC, value-stream mapping, and lean process-improvement methods.

Supply Chain and Logistics Intern *2017*
PepsiCo India, Gurugram, India

- Identified approximately INR 1 million in logistics savings through fleet upgrading, route analysis, and customer-order consolidation.
- Evaluated and trialed a flexible-conveyor automation option, reducing worker ergonomic risk scores by 54%.

Mechanical Maintenance (GET) *2015-2016*
JSW Steel Ltd., Vijayanagar Works, India

- Executed preventive and breakdown maintenance and supported safety-risk assessment for equipment in steelmaking operations.
- Applied time-and-motion study, ECRS, and SMED to reduce equipment changeover time by 46%.

Methods, Software, and Selected Technical Training

Programming and analysis: Python (pandas, scikit-learn), R, Stata, Tableau.
Optimization and research tools: LINGO, Excel Solver, Zotero, Mendeley.

Selected technical training
R Programming for Data Science - Udemy
Data Science Using Python - IBM on Coursera
Understanding Research Methods - University of London on Coursera
Certified Six Sigma Green Belt - in association with KPMG
Blockchain Essentials - IBM developerWorks

Additional Information

Languages: Hindi (native); English (TOEFL 108/120).

References

Adrian Choo, Ph.D. | *Advisor*
Associate Professor, Department of Supply Chain Management
Eli Broad College of Business, Michigan State University
East Lansing, MI 48824
Email: chooadri@broad.msu.edu

Srinivas (Sri) Talluri, Ph.D. | *Advisor*
Hoagland-Metzler Chair in Purchasing and Supply Management, Department of Supply Chain Management
Eli Broad College of Business, Michigan State University
East Lansing, MI 48824
Email: talluri@broad.msu.edu

Anjana Susarla, Ph.D. | *Committee Member*
Omura-Saxena Professor in Responsible AI, Department of Accounting and Information Systems
Eli Broad College of Business, Michigan State University
East Lansing, MI 48824
Email: asusarla@broad.msu.edu