

ACADEMIC EXPERIENCE

Lee Kong Chian School of Business, Singapore Management University	Singapore
Assistant Professor of Operations Management	2022–Present
College of Business, University of Nebraska–Lincoln	NE, United States
Assistant Professor of Supply Chain Management and Analytics	2019–2022

EDUCATION

Smeal College of Business, The Pennsylvania State University	PA, United States
Ph.D. in Supply Chain Management	2013–2019
Lingnan College of Business, Sun Yat-sen University	Guangzhou, China
M.S. in Management Science and Engineering	2011–2013
B.S. in Logistics Engineering and Management	2007–2011

RESEARCH INTERESTS

Applications: Pharmaceutical, Healthcare, Retail, Behavioral Operations.

Methodologies: Mechanism Design, Game Theory, Choice Model, Data Analytics, Causal Inference, Lab & Field Experiment.

PUBLICATIONS

1. Meng Li, Shuming Wang, **Liang Xu**¹. 2025. Replenishment Recommendation in Convenience Stores. Accepted at *Production and Operations Management*.
2. **Liang Xu**, Mani Vidya, Hui Zhao. 2023. Not a Box of Nuts and Bolts: Distribution Channels for Specialty Drugs? *Production and Operations Management*, 32(7) 2283-2303.
3. **Liang Xu**, Hongmin Li, Hui Zhao. 2022. Outcome-Based Reimbursement: The Solution to High Drug Spending? *Manufacturing & Service Operations Management*, 24(4) 2029-2047.
4. **Liang Xu**, Hui Zhao, Nicholas C. Petruzzi. 2021. Inducing Compliance with Post-market Studies for Drugs Under FDA's Accelerated Approval Pathway. *Manufacturing & Service Operations Management*, 23(1): 170-190.
 - Invited for presentation at the U.S. FDA, Sept. 2018
 - Featured in INFORMS media coverage, Aug. 2019.
 - Highly relevant to the ongoing reform of the FDA's Accelerated Approval Program, particularly following the controversy surrounding the June 2021 approval of Aducanumab (the first monoclonal antibody for Alzheimer's disease) under this pathway.
5. Hui Zhao, **Liang Xu**, Siemsen Enno. 2021. Inventory Sharing and Demand-Side Underweighting. *Manufacturing & Service Operations Management*, 23(5) 1217-1236.
6. Gang Chen, Waiman Cheung, Sung-Chi Chu, **Liang Xu**. 2017. Transshipment Hub Selection from a Shipper's and Freight Forwarder's Perspective. *Expert Systems with Applications*, 83:396-404.
7. Bin Zhang, **Liang Xu**. 2013. Multi-item Production Planning with Carbon Cap and Trade Mechanism. *International Journal of Production Economics*, 144(1):118–127.

¹ Authors listed in alphabetical order.

PAPERS IN REVIEW PROCESS AND WORK IN PROGRESS

1. Jiayi Lai*, Liang Xu, Xin Fang, Tinglong Dai. 2025. Regulating Adaptive Medical Artificial Intelligence: Can Less Oversight Lead to Greater Compliance? Under 2nd round revision (1st round decision: major revision) at *Management Science*.
2. Liang Xu, Xuying Zhao, Jingmiao Song. 2025. Revenue Sharing with Swap Contracts in Digital Product Development. Under 2nd round revision (1st round decision: major revision) at *Information Systems Research*.
3. Liang Xu, Valery Pavlov. 2024. Benchmarking the Newsvendor: How Social Comparison Affects Inventory Decision. Under 3rd round revision (1st and 2nd round decisions: reject and resubmit) at *Manufacturing & Service Operations Management*.
 - Best Paper Award for the 16th Conference on Behavioral Operations Research and Behavioral Operations Management in China, 2024
4. Dynamic Incentive Design for B2B Sales under Inventory and Timing Constraints, with Pascale Crama and Zhenyu Hu.
5. Line Extension as Preemptive Innovation? The Strategic Timing of Follow-On Drug Application, with Zhaowei She, Kanix Wang, and Jiayi Lai.

PUBLISHED BUSINESS CASES

1. Gang Chen, Liang Xu. 2012. 7 Days Inn: Operations Strategy. *Ivey Case Library*. ID: 9B12D023.
 - EFMD Case Writing Award “highly commended” by the case writing competition sponsor in the Emerging Global Chinese Competitors Category.
2. Gang Chen, Liang Xu. 2012. Teaching Note 7 Days Inn: Operations Strategy. *Ivey Case Library*. ID: 8B12D023.

TEACHING EXPERIENCE

Instructor, Lee Kong Chian School of Business | Singapore Management University

- **OPIM 101 – Decision Analysis**
 - Taught students to apply linear programming, probability, statistical analysis, and simulation techniques to optimize complex managerial decisions.
 - Developed proficiency in spreadsheet modeling and engineering for effective decision support.
- **OPIM 348 – Supply Chain Analytics**
 - Redesigned the course to center on advanced data analytics using Python, equipping students with programming skills for real-world supply chain applications.
 - Integrated hands-on projects and cases to apply data-driven models in solving complex challenges in inventory management, demand forecasting, revenue optimization, promotion planning, and distribution network design.

Instructor, College of Business | University of Nebraska – Lincoln

- **SCMA 350 – Business Analytics & Information Analysis**
 - Redesigned the course from JMP to Excel and Tableau, aligning with widely used industry tools.
 - Taught effective visualization for storytelling with data.
 - Introduced statistical methods, including confidence intervals, A/B testing, and control charts for data-driven decision-making.
 - Applied time series forecasting and linear & logistic regression through spreadsheets for hands-on learning.
- **SCMA 450 – Data Modeling and Computing**
 - Designed and developed this advanced data science course from the ground up.
 - Taught programming in R using tidyverse and data.table for high-performance data manipula-

* PhD student.

tion, visualization, and big data analytics.

- Introduced predictive analytics and machine learning techniques, such as random forest and XG-Boost, through hands-on projects on Kaggle.

Instructor, Smeal College of Business | The Pennsylvania State University

- **SCM 421 – Supply Chain Analytics**

- Built students’ quantitative supply chain expertise through data manipulation and visualization, and simulation and optimization techniques to address complex, real-world supply chain applications.
- Developed proficiency in data analysis and spreadsheet modeling.
- Recipient of the Ossian R. MacKenzie Doctoral Teaching Award, Smeal College of Business, 2017.

Teaching Assistant, Lingnan College of Business | Sun Yat-sen University

- Operations Management (Joint EMBA with Carlson School of Management)
- Operations Management (International MBA)
- Management Information Systems (Undergraduate)

AWARDS AND HONORS

- M&SOM Meritorious Service Award 2021
- Industry Studies Association Dissertation Award, Finalist 2020
- Jeanne and Charles Rider Graduate Fellowship, Smeal College of Business 2017, 2018
- Ossian R. MacKenzie Doctoral Teaching Award, Smeal College of Business 2017
 - Award to only one PhD student across all 70 PhD students in each year
- *First prize*, Structural Modeling Applications for Research in Technology (SMART) Workshop Competition, Carnegie Mellon University 2015
- National Scholarship for Graduate Students, Sun Yat-sen University 2012
- Graduate School Fellowship, Sun Yat-sen University 2011, 2012

PROFESSIONAL SERVICES

- **Discussant:** M&SOM Healthcare SIG Conference, London, UK 2025
- **Editorial Review Board:**
 - *Journal of Operations Management*, 2021–Present
 - *Decision Sciences*, 2021–Present
- **Ad-hoc Reviewer for:** *Management Science*, *Manufacturing & Service Operations Management*, *Production and Operations Management*, *Journal of Operations Management*, *Decision Sciences*, NSF Proposals.
- **Colloquia Participation:** 2017 POMS Doctoral Colloquia, 2017 INFORMS Doctoral Colloquia, 2018 CSCMP Doctoral Symposium, 2019 INFORMS New Faculty Colloquia
- **Session Chair:**
 - INFORMS Annual Conference, Atlanta, Oct 2025
 - INFORMS International, Singapore, Jul 2025
 - INFORMS Annual Conference, Seattle, Oct 2024
 - POMs Hong Kong, Jan 2023
 - INFORMS Annual Conference, Anaheim, Oct 2021
 - INFORMS Healthcare Conference (Virtual), Jul 2021
 - INFORMS Annual Conference, Phoenix, Nov 2018

CONFERENCE PRESENTATIONS

INFORMS Annual Conference, Atlanta, US Regulating Adaptive Medical Artificial Intelligence: Can Less Oversight Lead to Greater Compliance?	Oct 2025 (Scheduled)
INFORMS International, Singapore The Impact of Social Comparison on Newsvendor Decisions: An Experimental Investigation	Jul 2025
POMs Hong Kong, Hong Kong Auto-Replenishment with Human Oversight: Evidence from a Field Experiment	Jan 2025
The 16th Behavioral OR/OM Conference, Qingdao, China The Impact of Social Comparison on Newsvendor Decisions: An Experimental Investigation	Dec 2024
INFORMS Annual Conference, Seattle, WA Regulating Adaptive Medical Artificial Intelligence: Can Less Oversight Lead to Greater Compliance?	Oct 2024
POMs Hong Kong, Hong Kong The Impact of Social Comparison on Newsvendor Decisions: An Experimental Investigation	Jan 2023
INFORMS Annual Conference, Virtual Outcome-Based Reimbursement: The Solution to High Drug Spending?	Oct 2021
INFORMS Healthcare Conference, Virtual Outcome-Based Reimbursement: The Solution to High Drug Spending?	Jul 2021
POMs Annual Conference, Virtual Outcome-Based Reimbursement: The Solution to High Drug Spending?	May 2021
INFORMS Annual Conference, Virtual Outcome-Based Reimbursement: The Solution to High Drug Spending? How Does Medication-Assist Treatment Help in Combating the Opioid Epidemic?	Nov 2020
INFORMS Annual Conference, Seattle, WA Outcome-Based Reimbursement: The Solution to High Drug Spending? How Does Medication-Assist Treatment Help in Combating the Opioid Epidemic?	Oct 2019
CHOT IAB Spring Meeting, Malvern, PA A Prediction, Prevention, and Intervention Model to Combat the Opioid Epidemic	Apr 2019
INFORMS Annual Conference, Phoenix, AZ Outcome-Based Reimbursement for Pharmaceuticals with Uncertain Effectiveness	Nov 2018
POMs Annual Conference, Houston, TX Inducing Compliance with Post-market Studies for Drugs under FDA's Accelerated Approval Pathway A Behavioral Perspective on Inventory Sharing Not a Box of Nuts and Bolts: Are Specialty Distributors the Right Channel for Specialty Drugs?	May 2018
INFORMS Annual Conference, Houston, TX Inducing Compliance with Post-market Studies for Drugs under FDA's Accelerated Approval Pathway A Behavioral Perspective on Inventory Sharing	Nov 2017
POMs Annual Conference, Seattle, WA Accelerated Approval: Gatekeeper or Roadblock?	May 2017
INFORMS Annual Conference, Nashville, TN Accelerated Approval: Gatekeeper or Roadblock?	Nov 2016
POMs Annual Conference, Orlando, FL Not a Box of Nuts and Bolts: Distribution Channel Choice for Specialty Drugs	May 2016
INFORMS Annual Conference, Philadelphia, PA Determinants of Distribution Channel Choice in Pharmaceutical Industry – Specialty Drugs	Nov 2015

INVITED TALKS

University of Tennessee, Knoxville, United States	Oct 2025 (Scheduled)
Regulating Adaptive Medical Artificial Intelligence: Can Less Oversight Lead to Greater Compliance?	
Xi'an Jiaotong University, Xi'an, China	Jun 2024
Auto-Replenishment with Human Oversight: Evidence from a Field Experiment	
Sun Yat-sen University, Guangzhou, China	Jun 2023
Auto-Replenishment with Human Oversight: Evidence from a Field Experiment	
South China University of Technology, Guangzhou, China	Jun 2023
Auto-Replenishment with Human Oversight: Evidence from a Field Experiment	
Sun Yat-sen University, Guangzhou, China	Nov 2022
The Impact of Social Comparison on Newsvendor Decisions: An Experimental Investigation	
University of Chinese Academy of Sciences, Beijing, China	Oct 2022
The Impact of Social Comparison on Newsvendor Decisions: An Experimental Investigation	
University of Houston, Houston, United States	Feb 2022
Outcome-Based Reimbursement: The Solution to High Drug Spending?	
Case Western Reserve University, Cleveland, United States	Jan 2019
Inducing Compliance with Post-Market Studies for Drugs under FDA's Accelerated Approval Pathway	
University of Colorado, Boulder, United States	Jan 2019
Inducing Compliance with Post-Market Studies for Drugs under FDA's Accelerated Approval Pathway	
University of South Carolina, Columbia, United States	Jan 2019
Inducing Compliance with Post-Market Studies for Drugs under FDA's Accelerated Approval Pathway	
The University of Texas, Arlington, United States	Jan 2019
Inducing Compliance with Post-Market Studies for Drugs under FDA's Accelerated Approval Pathway	
University of Waterloo, Waterloo, Canada	Jan 2019
Inducing Compliance with Post-Market Studies for Drugs under FDA's Accelerated Approval Pathway	
University of Kansas, Lawrence, United States	Dec 2018
Inducing Compliance with Post-Market Studies for Drugs under FDA's Accelerated Approval Pathway	
US Food and Drug Administration (FDA), Silver Spring, MD, United States	Sep 2018
Inducing Compliance with Post-market Studies for Drugs under FDA's Accelerated Approval Pathway	

RESEARCH GRANTS

1. PI. AI-Human Interaction in Inventory Decision. Academic Research Fund (AcRF) Tier 1, Ministry of Education, Singapore, Fund No. C207/MSS23B009, Nov 2023-Apr 2025. Total Budget: SGD 39,141.
2. PI. Balancing Innovation Success and Scientific Rigor: Clinical Trial Result Generalizability Across Country Borders. Academic Research Fund (AcRF) Tier 2, Ministry of Education, Singapore. Under revision for resubmission following feedback from the SMU UREC committee. Targeted Total Budget: SGD 514,240.
3. Co-Investigator. Aggregator Business Model for Vehicle-to-Grid and A Pilot Program to Study Driver Behaviors. Academic Research Fund (AcRF) Tier 2, Ministry of Education, Singapore. Under revision for resubmission following feedback from the SMU UREC committee. Targeted Total Budget: SGD 994,166.
4. Co-Investigator. Human-Centered Operational Pandemic Resilience (HOPE). Academic Research Fund

(AcRF) Tier 3, Ministry of Education, Singapore. In preparation for submission. Targeted Total Budget: SGD 9,880,000.

MEDIA MENTIONS

- Significant number of drugs on the market not yet fully approved, *European Pharmaceutical Review*. Aug. 2019.
- New Research Reports Over One-third of Pre-Approved Prescription Drugs Have Not Completed the FDA Approval Process, *INFORMS News Releases*. Aug. 2019.
- One-Third of Pre-Approved Drugs Haven't Completed FDA Approval Process, *Anesthesia Experts*. Aug. 2019.
- Xu Examines Mechanism to Speed Drug Approval Process, *Nebraska Today*. Dec. 2020
- Joined the Tech Refactored podcast to share insight about the pharmaceutical industry supply chain, *Nebraska Governance and Technology Center*. May 2022.

PROGRAMMING SKILLS

Machine Learning: Python.

Data Analytics: R, SAS, SQL.

Econometric Analysis: Stata, R

Optimization: Matlab, Gurobi, Mathematica

PH.D. DISSERTATION

Title: *Studies on the Emerging Challenges of Innovations in the U.S. Pharmaceutical Supply Chain*

Dissertation Committee:

- **Hui Zhao (Committee Chair)**
Professor of Supply Chain Management
Department of Supply Chain & Information Systems
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