

Liang (Leon) Xu

Assistant Professor
Department of Operations Management
Lee Kong Chian School of Business, Singapore Management University
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Academic Experience

Singapore Management University, Lee Kong Chian School of Business

Assistant Professor of Operations Management 2022-Current

University of Nebraska - Lincoln, College of Business

Assistant Professor of Supply Chain Management and Analytics 2019-2022

Education

Smeal College of Business, The Pennsylvania State University

Ph.D. in Supply Chain Management Aug 2019

Lingnan College of Business, Sun Yat-sen University

M.S. in Management Science and Engineering Jun 2013

B.S. in Logistics Engineering and Management Jun 2011

CUHK Business School, Chinese University of Hong Kong

Visiting Student Jul-Sep 2012

Research Interests

- Data Analytics, Healthcare Operations and Innovations, Pharmaceutical Supply Chains, Behavioral Operations Management.

Publications

1. **Liang Xu**, Mani Vidya, Hui Zhao. 2023. Not a Box of Nuts and Bolts: Distribution Channels for Specialty Drugs? Accepted at *Production and Operations Management*.
2. **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.
3. Hui Zhao, **Liang Xu**, Siemsen Enno. 2021. Inventory Sharing and Demand-Side Underweighting. *Manufacturing & Service Operations Management*, 23(5) 1217–1236.
4. **Liang Xu**, Hongmin Li, Hui Zhao. 2022. Outcome-Based Reimbursement: The Solution to High Drug Spending? *Manufacturing & Service Operations Management*, 24(4) 2029-2047.
5. 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.
6. Bin Zhang, **Liang Xu**. 2013. Multi-item Production Planning with Carbon Cap and Trade Mechanism. *International Journal of Production Economics* 144(1):118–127.

Papers in Review Process

1. **Liang Xu**, Valery Pavlov. 2023. The Impact of Social Comparison on Newsvendor Decisions: An Experimental Investigation, under review at *Manufacturing & Service Operations Management*.

Work-In-Progress

1. **Liang Xu**, Meng Li, Shuming Wang. The Value of Auto-Replenishment: Evidence from a Field Experiment.
2. **Liang Xu**. Data-driven Inventory Control with ARIMA Demand Process.
3. Liang Xu, Xuying Zhao. Revenue Sharing Contract with Swap: Application in Video Game Development.

Published Business Cases

- Chen G. and **Xu L.** 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.
- Chen G. and **Xu L.** 2012. Teaching Note 7 Days Inn: Operations Strategy. Ivey Case Library, ID: 8B12D023.

Teaching Experience

Instructor, College of Business, University of Nebraska – Lincoln

- SCMA 350 – Business Analytics & Information Analysis
 - Explore big data and communicate findings through effective visuals using Excel and Tableau.
 - Learn three statistical power tools: Confidence Interval, A/B Test, and Control Charts.
 - Develop spreadsheet models for time series forecasting.
 - Learn linear and logistic regression for prediction.

Instructor, College of Business, University of Nebraska – Lincoln

- SCMA 450 – Data Modeling and Computing
 - Learn to Program with R.
 - Clean and manipulate and big data with *data.table* and *tidyverse* packages
 - Visualize data with *ggplot2*.
 - Learn machine learning models with *caret*.

Instructor, Smeal College of Business, The Pennsylvania State University

- SCM 421 (undergraduate core) – Supply Chain Analytics Fall 2016
 - Learn quantitative supply chain models and analytics skills through spreadsheet engineering, data manipulation & visualization, and simulation & optimization.

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

- Operations Management (Joint EMBA with Carlson School of Management) Fall 2012, 2013
- Operations Management (International MBA) Fall 2011
- Management Information Systems (undergraduate) Fall 2010

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.
- 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.

Invited Talks and Presentations

INFORMS Annual Conference, Virtual Conference, Oct 2021

- Outcome-Based Reimbursement: The Solution to High Drug Spending?

INFORMS Healthcare Conference, Virtual Conference, Jul 2021

- Outcome-Based Reimbursement: The Solution to High Drug Spending?

POMs Annual Conference, Virtual Conference, May 2021

- Outcome-Based Reimbursement: The Solution to High Drug Spending?

INFORMS Annual Conference, Virtual Conference, Nov 2020

- Outcome-Based Reimbursement: The Solution to High Drug Spending?
- How does Medication-Assist Treatment Help in Combating the Opioid Epidemic?

INFORMS Annual Conference, Seattle, WA, Oct 2019

- Outcome-Based Reimbursement: The Solution to High Drug Spending?
- How does Medication-Assist Treatment Help in Combating the Opioid Epidemic?

2019 Spring CHOT IAB (Industry Advisory Board) Meeting, Malvern, PA, Apr 2019.

- A Prediction, Prevention, and Intervention Model to Combat the Opioid Epidemic.

INFORMS Annual Conference, Phoenix, AZ, Nov 2018.

- Outcome-based Reimbursement for Pharmaceuticals with Uncertain Effectiveness.

US Food and Drug Administration (FDA), Silver Spring, MD, Sep 2018.

- Inducing Compliance with Post-market Studies for Drugs under FDA's Accelerated Approval Pathway.

POMs Annual Conference, Houston, TX, May 2018.

- 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 Distributor the Right Channel for Specialty Drugs?

INFORMS Annual Conference, Houston, TX, Nov 2017.

- Inducing Compliance with Post-market Studies for Drugs under FDA's Accelerated Approval Pathway.
- A Behavioral Perspective on Inventory Sharing.

POMs Annual Conference, Seattle, WA, May 2017.

- Accelerated Approval: Gatekeeper or Roadblock?

INFORMS Annual Conference, Nashville, TN, Nov 2016.

- Accelerated Approval: Gatekeeper or Roadblock?

POMs Annual Conference, Orlando, FL, May 2016.

- Not a Box of Nuts and Bolts: Distribution Channel Choice for Specialty Drugs.

INFORMS Annual Conference, Philadelphia, PA, Nov 2015.

- Determinants of Distribution Channel Choice in Pharmaceutical Industry – Specialty Drugs.

POMs Annual Conference, Washington D.C., May 2015.

- Gatekeeper or Roadblock: Optimal Evidence Generation and Access for New Drug Regulation.

Professional Experience

- Serves in the Editorial Board of Decision Sciences from Nov 2021.
- Reviewer for *Manufacturing & Service Operations Management*, *Production and Operations Management*, *Decision Sciences*, *NSF Proposal*, etc.
- Session Chair or Co-chair
 - Data-driven Decision Making in Pharmaceutical and Healthcare Supply Chains, INFORMS Annual Conference, Phoenix, AZ, Nov 2018.
 - Study of the Pharmaceutical Supply Chain, INFORMS Healthcare Conference, July 2021.
 - Study of the Pharmaceutical Supply Chain, INFORMS Annual Conference, Oct 2021
- Participant, 2017 POMS Doctoral Colloquia, 2017 INFORMS Doctoral Colloquia, 2018 CSCMP Doctoral Symposium, 2019 INFORMS New Faculty Colloquia.

Media Mentions

- Large Number of Drug Manufacturers Fail to Complete FDA's Accelerated Approval Program, <https://www.informs.org/About-INFORMS/News-Room/Press-Releases/New-Research-Reports-Over-One-third-of-Pre-Approved-Prescription-Drugs-Have-Not-Completed-the-FDA-Approval-Process>.
- Xu Examines Mechanism to Speed Drug Approval Process. <https://news.unl.edu/newsrooms/today/article/xu-examines-mechanism-to-speed-drug-approval-process/>
- Joined the Tech Refactored podcast created by the Nebraska Governance and Technology Center to share insight about the pharmaceutical industry supply chain. <https://news.unl.edu/newsrooms/today/article/xu-examines-mechanism-to-speed-drug-approval-process/>

Programming Skills

- Data Analytics: Python, R, SQL, SAS
- Econometric Analysis: Stata
- Optimization: Matlab