CSUPOM 2024
The 36th Annual Conference

"Technology and Sustainability in Contemporary Supply Chains"

March 8 - 9, 2024
Pomona, CA

Hosted by

CalPolyPomona | **College of Business Administration**
Singelyn Graduate School of Business

Table of Contents

36th CSU-POM Conference Agenda

"Technology and Sustainability in Contemporary Supply Chains"

Conference Co-Program Chairs

Alireza Yazdani

Sandeep Krishnamurthy

Yuanjie He

California State Polytechnic University, Pomona

JSCOM Editors

Yang Sun, JSCOM Editor-in-Chief, Park University

Shu Zhou, Managing Editor, San Jose State University

Executive Advisory Board:

Dr. Taeho Park *(Chair)*, San Jose State University

Dr. Ardavan Asef-Vaziri, CSU Northridge

Dr. Dalen Chiang, CSU Chico

Dr. Vish Hegde, CSU East Bay

Dr. Lei Lei, Rutgers University

Dr. Fred Raafat, San Diego State University

Dr. Zinovy Radovilsky, CSU East Bay

Dr. John Wu, CSU San Bernardino

Welcome to CSUPOM 2024

It is with immense enthusiasm that we, the Technology and Operations Management Department, College of Business Administration, and Singelyn Graduate School of Business at California State Polytechnic University, Pomona, extend a warm welcome to each participant joining us on our scenic Cal Poly Pomona campus for the distinguished CSUPOM conference. This year marks the 36th iteration of our annual gathering, themed "Technology and Sustainability in Contemporary Supply Chains." Our focus is on pivotal contemporary economic issues: Environmental, Social, and Governance (ESG) criteria, and the transformative power of technology in supply chains.

The conference kicks off with an insightful tour of the Niagara Bottling facility, showcasing the operational excellence of a leading entity in the bottled water and soft drinks industry. As we transition into the second day, attendees will be immersed in a series of parallel research presentation sessions, enriched by a special keynote speech and a panel discussion featuring esteemed scholars. We are privileged to host luminaries such as Dr. Christopher Tang, Distinguished Professor of UCLA and Edward Carter Chaired Professor in Business Administration, Dr. Raman Randhawa, Charles L. and Ramona I. Hilliard Professor of Data Sciences and Operations at Marshall School of Business, and our own Dr. Sandeep Krishnamurthy, Singelyn Family Dean of College of Business School at Cal Poly Pomona. This year, we're also introducing a novel session dedicated to student research presentations, a testament to our commitment to nurturing the next generation of scholars and practitioners.

The success of CSUPOM 2024 is a testament to the collaborative spirit and dedication of countless individuals. We extend our heartfelt gratitude to everyone who has played a role in bringing this event to fruition, with special thanks to Yang Sun, Chief Editor of JSCOM, for his pivotal role in supporting the conference. Our appreciation also goes out to the CSUPOM board ((Vish Hegde, Ming Zhou, Chongqi Wu, Xun Xu, John Wu, Mike Way, Zinovy Rodovisky, and many others), and our treasurer, Kunpeng Li for the unwavering support. We also sincerely thank Ms. Liana Ip of Technology and Operations Management Department for her contribution and coordination of the conference.

As we embark on this two-day intellectual journey, we hope to foster a dynamic environment where ideas and insights flourish, paving the way for innovative solutions and forward-thinking strategies in technology and sustainability. Let's embrace this opportunity to connect, learn, and inspire one another as we explore the pressing topics that define our era and the future of business. Once again, welcome to Cal Poly Pomona! We hope you enjoy the conference and the beautiful campus!

Alireza Yazdani, Sandeep Krishnamurthy, and Yuanjie He

Conference Co-chairs, California State Polytechnic University, Pomona

36th CSU-POM Conference Agenda

"Technology and Sustainability in Contemporary Supply Chains"

Friday, March 8th, 2024

1:00 – 5:00 PM	**Plant Tour**	Niagara Bottling
6:00 – 8:00 PM	**Dinner and Board Meeting**	VITA Italian Bar & Grill

Saturday, March 9th, 2024

7:30 – 8:15 AM	**Registration and Breakfast**	163-2026
8:15 – 8:30 AM	**Welcome/Orientation** **Sandeep Krishnamurthy** Singelyn Family Dean of the College of Business Administration Conference Co-Chair	163-2004
8:30 – 10:30 AM	**Session 1 Presentations** Session 1A (Strategic Decision-Making and Market Analysis) Session 1B (Innovations in Education and Technology)	163-2004 163-2015
10:30 – 10:45 AM	**Coffee Break**	163-2026
10:45 – 11:30 AM	**Panel Discussion:** The Impact of AI on Digitizing Supply Chains: Fact, Fiction or Fantasy? **Ramandeep S. Randhawa** Senior Vice Dean for Academic Programs Charles L. and Ramona I. Hilliard Professor of Business Administration Professor of Data Sciences and Operations	163-2004

	Sandeep Krishnamurthy
	   Singelyn Family Dean of the College of Business Administration
	   Conference Co-Chair
	
	Milan Miric
	   Associate Professor of Data Sciences & Operations**,** USC Marshall School of Business	

11:35 AM – 12:20 PM	**Keynote Presentation**: Managing Supply Chains in the ESG Era
	Christopher Tang
	   UCLA Distinguished Professor
	   Edward W. Carter Chair in Business Administration
	   Senior Associate Dean, Global Initiatives
	   Faculty Director, Center for Global Management
		163-2004

12:20 – 1:20 PM	**Lunch**	163-2026
1:20 – 3:20 PM	**Session 2 Presentations** Session 2A (Supply Chain Resilience and Sustainability) Session 2B (Optimization and Operational Excellence)	 163-2004 163-2015
3:20 – 3:35 PM	**Coffee Break & Group Photo**	163-2026 CBA courtyard
3:35 – 4:20 PM	**Student Paper Presentations (Online)** Ming Zhou, San Jose State University	163-2015
4:20 – 5:00 PM	**CSUPOM Business Meeting**	163-2004

36th CSUPOM Conference Keynote Speaker

Dr. Christopher Tang

Distinguished Professor of UCLA

Edward Carter Chaired Professor in Business Administration

Abstract: In today's economy, investors pay attention to ESG (Environmental, Social, Governance) measures. However, ESG measures can be distorted if they do not explicitly incorporate a firm's operations throughout its entire supply chain. In this talk, I discuss the key drivers for ESG investing, as well as the importance and value of unifying ESG and supply chain thinking. Finally, I discuss a recent research project and present some key challenges and opportunities for practitioners and researchers in both ESG and supply chain management.

Speaker Bio: Christopher Tang is a University Distinguished Professor, the Edward W. Carter Chair in Business Administration, and the Senior Associate Dean of Global Initiatives at the UCLA Anderson School of Management. He also serves as Vice President (Publications) of INFORMS overseeing 17 journals. Chris is also a lifetime fellow of all three major academic societies (INFORMS, MSOM, and POMS). Known as a thought leader in global supply chain management, Chris consulted with numerous global companies including Amgen, Amazon, HP, IBM, Nestlé (USA), etc.; taught at Stanford University, UC Berkeley, Hong Kong University of Science and Technology, National University of Singapore (NUS), MIT (Zaragoza), and London Business School. He served as Dean of NUS Business School, President of POMS, Editor of M&SOM, and Senior Associate Dean of Academic Affairs at UCLA Anderson School.

Chris has published 7 books, 40 book chapters, and over 200 research articles in global supply chain management. He has also published over 100 articles in the Wall Street Journal, Financial Times, Barron's, Bloomberg Law, Fortune, Forbes, Los Angeles Times, etc. He received his B.Sc. (First class honours in Mathematics) from King's College, London; M.A (in Statistics), M.Phil. (in Administrative Science), and PhD (in Management Science) from Yale University.

36th CSUPOM Conference

Honored Panelist

Dr. Ramandeep Randhawa

Charles L. and Ramona I. Hilliard Professor of Business Administration

Professor of Data Sciences and Operations

USC Marshall School of Business

Speaker Bio:

Dr. Randhawa Ramandeep is the Charles L. and Ramona I. Hilliard Professor of Business Administration and Professor of Data Sciences and Operations at USC Marshall School of Business. He currently serve as the Senior Vice Dean for Academic Programs overseeing all the UG, specialized MS and MBA programs. His research and teaching interests lie in the areas of operations and service management, AI, machine learning, and business analytics. He also currently serve as an area editor for the journal *Operations Research*. He holds a BTech degree from IIT-Delhi, an MS in Statistics, and a PhD in Business from Stanford University. He has co-founded the AI startup PathomIQ and currently serve on its scientific advisory board.

36th CSUPOM Conference

Honored Panelist

Dr. Sandeep Krishnamurthy

Singelyn Family Dean

College of Business Administration

Cal Poly Pomona

Speaker Bio:

Dr. Sandeep Krishnamurthy is the Singelyn Family Dean of the College of Business Administration and the Singelyn Graduate School of Business at Cal Poly Pomona. Dr. Krishnamurthy was born and raised in India. He obtained his undergraduate degree in Chemical Engineering from the prestigious Indian Institute of Technology (IIT) at Bombay (Mumbai), India. He achieved his Post Graduate Diploma in Business Management (PGDBM) from XLRI, Jamshedpur, India. He attained a Ph.D. in marketing and economics from the University of Arizona's Eller School. Dr. Krishnamurthy is an interdisciplinary academic scholar. His academic research has been cited over 5,000 times with an h-index of 29 and an i-10 index of 41. His current research is focused on the impact of AI on business, government and society.

SESSION 1A: **Strategic Decision-Making and Market Analysis**

Location: **163-2004**

Time: **8:30 – 10:30 AM PST**

Session Chair: **Chongqi Wu, CSU East Bay**

AI-driven Prediction of Port Emissions Inventories
> *Carlos D. Paternina-Arboleda, San Diego State University*
> *Dayana Agudelo-Castaneda, Universidad del Norte*
> *Stefan Vos, University of Hamburg*
> *David Prieto, Universidad del Norte*

Exclusive Games Access in A Cross-Platform Environment – An Analysis Of How Game Producers Maximize Long-Term Profit
> *Maryam Hassanlou, California State University, San Marcos*
> *Yi Sun, California State University, San Marcos, San Marcos*
> *Fang Fang, California State University, San Marcos, San Marcos*

Risk Sharing in a Two-Level Supply Chain with Variable Capacity and Random Yield
> *Xiao Xiao, California State University Stanislaus*
> *Feng Zhou, California State University Stanislaus*
> *Junhee Kim, California State University Stanislaus*
> *Saejoon Kim, California State University Stanislaus*

Do Acquisitions Improve Hospital Operating Performance
> *Yuan Ye, California State University, Sacramento*

An Analytical Study of the Impacts of Blockchain Technology on Trading Preowned Vehicles
> *Kunpeng Li, Air Force Institute of Technology*

A G-formula Approach for Quantifying Real Estate Property Views
> *Chongqi Wu, California State University East Bay*
> *Ming Zhou, San Jose State University*

SESSION 1B: Innovations in Education and Technology

Location: 163-2015

Time: 8:30 – 10:30 AM PST

Session Chair: Zhezhu Wen, CSU Fresno

Leveraging Machine Learning Models for Strategic Planning in Prep Courses to Enhance Student Graduation Success
> *Yertai Tanai, California State University, Fresno*
> *Kamil Ciftci, California State University, Fresno*

The Effectiveness of Pair Programming in Machine Learning Course
> *Stephen Choi, California State University, Fresno*

Using Control Charts to Evaluate Individual and Team Athletic Performance
> *Michael H. Way, California State University, Bakersfield*

Analyzing Consumer Satisfaction of Online Grocery Retailing Process Using Consumer Reviews
> *Zinovy Radovilsky, California State University, East Bay*
> *Vishwanath Hegde, California State University, East Bay*

Exploring the Interplay among Agility Practices, Societal Culture, and Paradoxical Outcomes
> *Zhezhu Wen, California State University, Fresno*
> *Paul Hong, University of Toledo*

High Impact Journals and Supper Journals for State-Funded Teaching Focused Business Schools
> *Ardavan Asef-Vaziri, California State University, Northridge*

SESSION 2A: Supply Chain Resilience and Sustainability

Location: 163-2004

Time: 1:20 – 3:20 PM PST

Session Chair: Jian-Yu (Fisher) Ke, CSU Dominguez Hills

Sustainable Operations Management Practices in the Textiles, Apparel, and Footwear Industry
> Yin Yi Kwan, San Jose State University
> Diane Ngo, San Jose State University
> Tianqin Shi, San Jose State University

Developing Supply Chain Resilience Capabilities in an Industry 4.0 Landscape: Insights from A Scoping Literature Review
> Xie He, University of Ottawa
> Sara Hajmohammad, University of Ottawa
> Nasser Shahrasbi, San Francisco State University

Assessing Resilience of Global Healthcare Supply Chains: Insights from the USAID GHSC-PSM Dataset
> Jia Guo, California State University, East Bay
> Balaraman Rajan, California State University, East Bay
> Shriya Arora, California State University, East Bay

Effect of Supply Chain Transparency in Sustainable Practices on Customer Purchase Intent: A Segmentation Study
> Vafa Saboorideilami, Dominican University of California
> ChangSeob Yeo, Dominican University of California

Offshoring, Nearshoring, and Re-shoring: The Transaction Cost Theory Perspective in Supply Chain Resilience
> Thani Jambulingam, Saint Joseph's University
> Ravi Kathuria, Chapman University

Supply Chain Resilience through Transportation Modal Flexibility
> Jian-yu (Fisher) Ke, California State University, Dominguez Hills

SESSION 2B: **Optimization and Operational Excellence**

Location: 163-2015

Time: 1:20 – 3:20 PM PST

Session Chair: Jordan Taylor, CSU Maritime Academy

Price Variabilities Across Supply Chains: A Study Based on US Industry Census Data
> *Libo Sun, California State Polytechnic University, Pomona*
> *Xiaohui Xu, California State Polytechnic University, Pomona*

An Integrated Event-Driven Real-time Tactical-Operational Optimization Framework for Smart Ports Operations Planning
> *Danilo Abril, Hypothalamus AI*
> *Carlos D. Paternina-Arboleda, San Diego State University*
> *Jesus Velasquez-Bermudez, Hypothalamus AI*

Enhancing Ethical Compliance in AI Solutions Through ChatGPT Augmentation
> *Yuzhang Han, California State University San Marcos*
> *Fang Fang, California State University San Marcos*
> *Yi Sun, California State University San Marcos*

Effectiveness of Consortium as a Supply Chain Governance Model in the Context of Social Responsibility: An Empirical Study from Bangladesh
> *Somak Paul, California State University, East Bay*

Recent Refinements of the Gravity (Huff) Model for Competitive Facilities Location
> *Zvi Drezner, California State University-Fullerton*
> *Dawit Zerom, California State University-Fullerton*

Movement and Wait Times of Oil Tankers in Northern California
> *Jordan Taylor, California State University Maritime Academy*

STUDENT SESSION

Location: **163-2015**

Time: **3:35 – 4:20 PM PST**

Session Chair: **Ming Zhou, San Jose State University**

Optimal Video Blogging Production and Advertising Strategies
RuiKang (Jason) Yan, UC San Deigo
Project advisor: Kunpeng Li, Air Force Institute of Technology

Availability of School Options and Housing Price
Allison Zhou, Maximus Huang
Project advisor: Ming Zhou, San Jose State University

36th CSUPOM Conference Abstracts

(Session 1A)

AI-driven Prediction of Port Emissions Inventories

Carlos D. Paternina-Arboleda, San Diego State University
Dayana Agudelo-Castaneda, Universidad del Norte
Stefan Vos, University of Hamburg
David Prieto, Universidad del Norte

Ports are major hubs of world trade and are essential for import and export materials between countries, but they are also a major source of ship pollution, vehicle emissions, particular matter and noise. Port services are also among the most important sources of revenue for the global market, as they improve the efficacy, competitiveness, and operational processes of the global market system. By using machine learning models/methods to predict the emissions derived from operations at the port we can point out the best way of reducing emissions without compromising on profits. We compare several machine learning models such as linear regression, gradient descent, AutoML TPOT, logistic regression, and non-linear regression to predict NOx, PM10 and PM2.5 emissions due to port activities. We compare different models to help identify areas of concern, evaluate the effectiveness of emission reduction strategies, and facilitate sustainable development of ports.

Exclusive Games Access in A Cross-Platform Environment – An Analysis Of How Game Producers Maximize Long-Term Profit

Maryam Hassanlou, California State University, San Marcos
Yi Sun, California State University, San Marcos, San Marcos
Fang Fang, California State University, San Marcos, San Marcos

In the rapidly growing video gaming industry, multiple key players shape its trajectory: game developers, publishers, and hardware/software platform providers. Our study investigates the strategic decisions of game publishers in maximizing profits through exclusive game access. Focusing on the dynamic relationship between publishers and platforms, we propose a multi-objective model to analyze why and when publishers opt for exclusive deals with certain platforms, potentially disadvantaging other platforms and their players. The model, based on Integer Goal Programming, is designed to optimize multiple objectives of profit and user experience with constraints. Utilizing the MATLAB R2023a Optimization solver, we provide optimized access allocations for platforms and game features, to support the supply chain equilibrium strategy of game development and subscription businesses. This contribution

enhances our understanding of the cross-platform gaming landscape by shedding light on the complex dynamics between publishers and platforms.

Risk Sharing in a Two-Level Supply Chain with Variable Capacity and Random Yield

Xiao Xiao, California State University Stanislaus
Feng Zhou, California State University Stanislaus
Junhee Kim, California State University Stanislaus
Saejoon Kim, California State University Stanislaus

Research on production uncertainty is crucial in today's complex and interconnected business environment, as supply chains contend with numerous uncertainties, including demand fluctuations and supplier disruptions, significantly affecting their operations. This study is based on three centralized supply chains and three decentralized supply chains, and investigates two types of production uncertainty: Variable Capacity (VC) and Random Yield (RY), examining their impacts on supply capability, relationships among supply chain members, decision-making behaviors, and overall performance. RY, often resulting from imperfect processes, is predictable and measurable, unlike VC, which is triggered by entirely random factors such as unforeseen interruptions and unplanned maintenance, rendering it uncontrollable. Our findings reveal that centralized models are predominantly influenced by RY due to its predictability, enabling manufacturers to adjust their production strategies accordingly. In contrast, the unpredictable nature of VC, stemming from external shocks, is frequently disregarded in decision-making. In the absence of risk-sharing, RY primarily affects manufacturers, with VC having a minimal impact. However, RY influences manufacturers' production decisions, while retailers' ordering strategies consider both types of uncertainty. In response to production uncertainties, manufacturers adapt to RY's predictability within supply chains, whereas retailers modify their ordering practices to mitigate risks arising from both supply and demand uncertainties. These insights underscore the distinct impacts of production uncertainties on supply chain entities and highlight management practices for addressing these challenges.

Do Acquisitions Improve Hospital Operating Performance

Yuan Ye, California State University, Sacramento

Hospital mergers and acquisitions (M&As) have been on the rise in recent years. This study first examines whether hospital acquisitions contribute to care quality performance. Next, considering that care provision and consumption in the U.S. are highly localized, we investigate the extent to which hospitals' post-acquisition performance improvements are derived from two operational characteristics, namely geographical proximity and service lines similarity, between the acquired and the acquirer hospitals. The study yields several important findings. First,

hospital acquisitions result in improved quality for the acquired hospitals. Second, there is an inverted U-shaped relationship between the pre-acquisition degree of service line similarity and the post-acquisition quality improvements of the acquired hospitals. Finally, the inverted U-shaped relationship is moderated by geographical proximity.

An Analytical Study of the Impacts of Blockchain Technology on Trading Preowned Vehicles

Kunpeng Li, Air Force Institute of Technology

It is of great value to study the preowned vehicle market, because not only is the market substantial and growing rapidly, but it also has a profound impact on the environment. One of the major challenges in promoting preowned vehicles lies in the fact that many consumers do not have confidence in the quality and reliability of preowned vehicles. Blockchain technology offers an effective solution to verify the authenticity of the pedigree data of preowned vehicles. The project aims to explore the feasibility of blockchain technology in promoting trading preowned vehicles through online platforms, as well as the impact of blockchain technology on all players in the transactions. A two-period dynamic analytical model is formulated to capture the crucial aspects of preowned vehicle transactions.

A G-formula Approach for Quantifying Real Estate Property Views

Chongqi Wu, California State University East Bay
Ming Zhou, San Jose State University

The proverb "A picture is worth a thousand words" translates into "a view is worth many thousand dollars" in the real estate industry, or, is it? Our question squarely relates to the problem of real estate property valuation. Classic research followed the famous hedonic price theory developed within the field of econometrics (Rosen 1974). The value of a view has been mostly studied using hedonic models (Damigos and Anyfantis, 2011; Bond et al., 2020). More recently, machine learning methods gained grounds in studying real estate valuation. Potrawa and Teterreva (2022) augmented traditional neural network valuation models with unstructured text and image data. In our research, we endeavor to conceptualize the value of a view by establishing a neural network model for the purpose of reconstructing all defining characteristics of a property, which enables the analysis of a property within various controlled scenarios. The value of a property's view is then quantified within a controlled and comparable environment to achieve a fair and interpretable valuation. Different from traditional regression models, our study quantified property values following the G-formula approach and better identified the exact average treatment effect of specific property views. To the best of our knowledge, this is the first research taking a what-if perspective that enables a better calibration of the property values.

(Session 1B)

Leveraging Machine Learning Models for Strategic Planning in Prep Courses to Enhance Student Graduation Success

Yertai Tanai, California State University, Fresno
Kamil Ciftci, California State University, Fresno

This study investigates the use of multiple machine learning models to strategically determine which new college students should enroll in preparatory courses. By leveraging advanced analytics, universities can improve student success and allocate resources more effectively, highlighting the significance of data-driven approaches in supporting students and optimizing institutional resources.

The Effectiveness of Pair Programming in Machine Learning Course

Stephen Choi, California State University, Fresno

Artificial intelligence (AI) education is becoming an issue in many educational institutions and more so among colleges and universities because AI is becoming one of the major thrusts in business operations and processes. Given these business industry demands and circumstances, educating the business major students with AI courses in the business curriculum is in order. This leads to the question of what and how of blending AI into the business curriculum. From the list of AI topics and areas, one prominent topic is machine learning where computer coding is the primary skill that is featured and required by the students who are taking the course. Computer coding is a skill that has been identified within the computer science discipline and this clearly challenges business major students. To address and ease the challenge, pair programming technique is examined. Pair programming, one of the agile programming techniques, calls two people to continue to alternate and switch the roles of coder and reviewer in completing a coding assignment. It is known that pair programming lowers the cognitive barrier, shares coding knowledge, facilitates critical thinking and high-quality coding work for the two people. Given the high level of coding challenge, this paper investigates how pair programming principles and technique support the business major students in becoming competent coding-able students in machine learning course.

Using Control Charts to Evaluate Individual and Team Athletic Performance

Michael H. Way, California State University, Bakersfield

The realm of analytics in sports has exploded over the last two decades. Much of this has been fueled by game recordings with many camera angles using high-definition imaging, all of which has enabled the compilation of additional data beyond the normal "counting stats". Often, this

data is aggregated to provide a summary statistic for individual or team performance. Examples include the Game Score for baseball and the Player Efficiency Rating for basketball. This paper is an exploration of the applicability of control charts, particularly those suitable for individual measures (n=1), to assess changes in the performance of individual athletes and their teams over the course of a season.

Analyzing Consumer Satisfaction of Online Grocery Retailing Process Using Consumer Reviews

Zinovy Radovilsky, California State University, East Bay
Vishwanath Hegde, California State University, East Bay

This research was motivated by the need to identify relationships between elements of online grocery retailing process and its consumer satisfaction using online consumer reviews. By utilizing text mining analysis, we grouped online consumer reviews into five clusters of word terms that come close to the elements of the online grocery retailing process, i.e., order delivery to consumers, online ordering and service, item variety and availability for ordering, picking and packing of ordered items, and order and delivery price. We also found that these elements can positively or negatively impact consumer satisfaction of the online grocery retailing process. The utilization of text mining and predictive modelling led to the development of a multinomial logistic regression model to predict consumer satisfaction ranking based on word terms identified in online consumer reviews. The results of this research produced several important practical directions for improving consumer satisfaction in online grocery retailing.

Exploring the Interplay among Agility Practices, Societal Culture, and Paradoxical Outcomes

Zhezhu Wen, California State University, Fresno
Paul Hong, University of Toledo

Drawing on data from manufacturing firms, this study explores the interaction between agility practices and societal cultural dimensions, and their impact on paradoxical performance outcomes – namely, customer adaptability and internal productivity. The research employs multilevel models to test hypotheses, with the robustness of findings further assessed through Bayesian multilevel models. The results indicate that agility practices positively influence both adaptability and productivity outcomes, yet significant variations exist in the implementation and effectiveness of these practices across different countries. This study confirms the effectiveness of agility practices in resolving paradoxical outcomes and emphasizes the critical role of cultural context as a meaningful boundary condition for operational performance.

High Impact Journals and Supper Journals for State-Funded Teaching Focused Business Schools

Ardavan Asef-Vaziri, California State University, Northridge

We will investigate and merge about 2700 journals on the Australian Business Deans Council (ABDC) list, about 1600 journals on the Charter Association of Business Schools (CABS), and about 1000 on the Quality Journal (Herzing) list. We will evaluate the combined list of about 3300 journals on the ABDC (C to A+) and Simago journal rankings (Q4 to Q1+) scale. We discuss the discrepancies between the two evaluation systems and try to achieve relative consistency out of their inconsistencies. On these foundations, we propose a set of High Impact Journals (HIJs) and Supper Journals (SHIJs) for different departments in State-Funded Teaching-Focused Business-Schools (SFTFBSs). This list can serve as one of the formal sections enhancing the cyclical AACSB accreditation report. More importantly, it is a platform motivating faculty to engage in higher-quality publications. HIJs are counted with a higher weight than other AACSB-accepted journals in the RPT process in SFTFBSs. In addition, a nominal financial reward or recognition may set the stage for higher academic contributions.

(Session 2A)

Sustainable Operations Management Practices in the Textiles, Apparel, and Footwear Industry

Yin Yi Kwan, San Jose State University
Diane Ngo, San Jose State University
Tianqin Shi, San Jose State University

This paper reviews the current body of literature concerning the classification of frameworks, models, strategies, and practices in the textile, apparel, and footwear (TAF) industry. It organizes and unifies frameworks, models, strategies, and practices of sustainable TAF within various domains of operations management: freight transport, warehousing, purchasing and procurement, reverse logistics, product design, production, and packaging. Based on the review and analysis, we present suggestions with the goal of assisting TAF businesses in achieving long-lasting success in their sustainable operational oversight.

Developing Supply Chain Resilience Capabilities in an Industry 4.0 Landscape: Insights from A Scoping Literature Review

Xie He, University of Ottawa
Sara Hajmohammad, University of Ottawa
Nasser Shahrasbi, San Francisco State University

Research Problem: This paper explores how Industry 4.0 technologies enhance supply chain resilience. Building resilience is increasingly vital as supply chain risks grow. However, research on the linkage between emerging technologies and resilience capabilities is limited.

Methodology: A systematic literature review of 50 papers from 2010-2023 in top-tier management journals was conducted. The literature was analyzed to identify key technologies impacting resilience and their mechanisms.

Results: Three critical technologies emerged:

1. Artificial Intelligence and Machine Learning promote prediction and flexibility to plan for and respond to disruptions.
2. Blockchain offers traceability and transparency to track goods and coordinate partners.
3. Big Data Analytics enhances prediction for planning.

Of these, AI/ML is the most widely proposed, while blockchain aids transparency. Big Data ranks third for improving predictions.

Implications: The technologies build resilience by strengthening preparation, response, recovery, and learning from disruptions. The paper connects the disconnected concepts of Industry 4.0 and supply chain resilience. It outlines technologies and capabilities driving transformation.

Originality: The paper puts forth a framework linking technologies to resilience capabilities. It also provides a literature analysis, addressing gaps at the intersection of Industry 4.0 and resilience.

Assessing Resilience of Global Healthcare Supply Chains: Insights from the USAID GHSC-PSM Dataset

Jia Guo, California State University, East Bay
Balaraman Rajan, California State University, East Bay
Shriya Arora, California State University, East Bay

In the ever-changing landscape of global healthcare supply chains, resilience is paramount for reducing risks and ensuring seamless operations. This study aims to develop a comprehensive framework for measuring global healthcare supply chain resilience, grounded in empirical

analysis and real-world scenarios. As a leading international development agency, USAID is pivotal in driving development outcomes, bolstering U.S. national security, and fostering economic prosperity. By utilizing the USAID GHSC-PSM Health Commodity Delivery Dataset, our study reveals what makes global healthcare supply chains resilient and extracts valuable insights to aid in their recovery and emergency preparedness efforts. Our findings affirm the critical importance of resilience strategies such as agility, collaboration, flexibility, and redundancy in fortifying supply chain resilience during the COVID-19 pandemic response. These insights not only help in navigating challenging times but also in fortifying global healthcare supply chains for the future, ensuring continuity and effectiveness amidst unprecedented challenges.

Effect of Supply Chain Transparency in Sustainable Practices on Customer Purchase Intent: A Segmentation Study

Vafa Saboorideilami, Dominican University of California
ChangSeob Yeo, Dominican University of California

This study examines the effect of supply chain transparency on the costumers' purchase intent for sustainable products through a segmentation analysis. Through analyzing survey-based data, this research investigates different motivations driving purchase of sustainable products. These motivations include ethical concerns, environmental considerations, and demand for transparency about supply chain sustainable practices. Perceived benefits of sustainable products such as positive image and higher quality, increase their appeal among customers. Nonetheless, barriers such as limited availability, higher cost, and difficulty of determining the authenticity of environmental claims, persist. Through a segmentation analysis, this research identifies several customer segments with regards to their sustainability consciousness. By understanding the effect of supply chain transparency in relation to sustainable practices on each customer segment, businesses would be able to devise more personalized policies to efficiently execute environmental and social initiative that reduce cost and increase perceived quality for customers.

Offshoring, Nearshoring, and Re-shoring: The Transaction Cost Theory Perspective in Supply Chain Resilience

Thani Jambulingam, Saint Joseph's University
Ravi Kathuria, Chapman University

Supply chain shortages have become more common since COVID-19, whether in health-related products, consumer goods, or automotive industries. According to a National Comprehensive Cancer Network (NCCN) survey conducted in October 2023, 72% of cancer centers were still short on carboplatin and 59% lacked enough cisplatin—the two generic cancer-treating drugs. The microchip shortage, which impacted a variety of industries especially the automotive, prompted the Biden administration to introduce the CHIPS ACT of 2022 and more recently create the Council on Supply Chain Resilience. Of course, these government initiatives are considered

essential in the short term to mitigate shortages but are they prudent from a long-term perspective? In this paper, we deploy the transaction cost theory factors to evaluate these important decisions regarding offshoring, nearshoring, and re-shoring to build resilient supply chains. We develop research hypotheses to design resilient supply chains that balance transaction efficiency and coordination costs based on the characteristics of their products and supply chain dynamics. An empirical research design is proposed to test the hypotheses using multiple regression techniques and derive implications for future research and practice.

Supply Chain Resilience through Transportation Modal Flexibility

Jian-yu (Fisher) Ke, California State University, Dominguez Hills

The literature indicates that the flexibility strategy can mitigate supply chain risks and enhance resilience. This study uses manufacturing industry-level data to investigate the shares of different transportation modes in global supply chains during the pandemic and the impact of transportation modal flexibility on inventory efficiency.

(Session 2B)

Price Variabilities Across Supply Chains: a Study Based on US Industry Census Data

Libo Sun, California State Polytechnic University, Pomona
Xiaohui Xu, California State Polytechnic University, Pomona

The bullwhip effect (BWE) predicts that the demand variabilities in the upstream supply chain are larger than those in the downstream operations. Many researchers have examined BWE behaviour and operational causes and countermeasures either via theoretical, experimental, or empirical studies. However, recent game theory modelling research indicates under certain conditions, a reverse bullwhip effect (RBE) in pricing may exist at some segments of a supply chain. Our research utilizes the US industry level price data to examine if a sector amplifies or dampens the price variances, identifying the existence of BWE or RBE in each sector. We further characterize the major US domestic supply chains pricing variability pattern by using the simple price smoothing ratio and price trend smoothing ratio. Our empirical study enhances the theory of the BWE and reverses BWE by addressing the price volatilities along the supply chain based on a comprehensive dataset.

An Integrated Event-Driven Real-time Tactical-Operational Optimization Framework for Smart Ports Operations Planning

Danilo Abril, Hypothalamus AI
Carlos D. Paternina-Arboleda, San Diego State University
Jesus Velasquez-Bermudez, Hypothalamus AI

The ongoing global supply chain disruptions have raised many concerns about port productivity, among which port congestion is a key issue. This article proposes an integrated tactical-operational optimization framework that raises the capabilities of port information systems to deliver smarter decision-making processes through a decision support system. To this end, we have developed a library of multiple smart models for optimizing port operations, independently engaged in parallel but mathematically coordinated to achieve autonomous real-time distributed optimization and using a novel event-driven structure to enable future implementations using digital twins. The framework has been tested for benchmarking different commercial solvers on several real-world instances for the case under study, i.e., the Port of Cartagena in Colombia. Results show a strong improvement in port's operational planning.

Enhancing Ethical Compliance in AI Solutions Through ChatGPT Augmentation

Yuzhang Han, California State University San Marcos
Fang Fang, California State University San Marcos
Yi Sun, California State University San Marcos

Although Artificial Intelligence (AI) has driven multiple waves of technological progress, its real-world application often proceeds with significant caution, trailing behind its technical advancements. A primary obstacle to broader AI deployment lies in ethical challenges. Sectors like healthcare and social work demand AI solutions utilized in their domains adhere to stringent ethical norms, such as fairness, explainability, non-malevolence, and accountability. Furthermore, these sectors may prioritize domain-specific ethical standards, posing highly customized ethical requirements. This presents a formidable challenge to many AI developers, who may either overlook ethical considerations in their development processes or apply a generic set of ethical guidelines for users from any fields. To address this challenge, we propose a system designed to evaluate AI solutions' ethical compliance based on user-selected standards and adjust them for enhanced and customized ethical adherence without substantially sacrificing performance. Our system leverages ChatGPT to streamline interactions with end users, ensuring an AI-augmented user experience.

Effectiveness of Consortium as a Supply Chain Governance Model in the Context of Social Responsibility: An Empirical Study from Bangladesh

Somak Paul, California State University, East Bay

The formation of supply chain consortiums, such as the Accord in Bangladesh, has been praised as a paradigm shift in socially responsible operations. The effectiveness of these formations as a supply chain governance model, however, has not been critically analyzed in the supply chain literature in the context of social responsibility. Specifically, whether a consortium is more capable of building capacity for workplace safety in certain type of supplier factories and less so in others remains an open question. We bridge this gap by examining the efficacy of the Accord in building a long-term capacity for the supplier factories towards a self-sustaining culture of workplace safety. Using the lenses of agency theory and resource dependence theory we identify three key variables that could impact the consortium's success in this endeavor. Analyzing a carefully curated archival dataset on 1,554 supplier factories we show that the travel time between the consortium and a factory influences the latter's likelihood of being qualified to do business with the consortium signatory brands. Furthermore, the size of the factory seems to have a U-shaped relationship with this probability. Whether it shares the same facility with other factories also impacts a factory's prospect of continuing business with the consortium. Based on these findings we recommend that the consortium take a more equitable approach while developing an organizational culture of safety in the factories. The government should also intervene in making this process fairer. Our research has policy implications for the developing economies.

Recent Refinements of the Gravity (Huff) Model for Competitive Facilities Location

Zvi Drezner, California State University-Fullerton
Dawit Zerom, California State University-Fullerton

The competitive facilities location problem is to find the best locations for one or more facilities among existing competing facilities. The facilities attract demand generated by customers in the area. The objective is to maximize the market share captured by the new facilities. By the gravity model, the proportion of the demand attracted to a facility is proportional to the facility's attractiveness A, and to a distance decay function based on a parameter λ. In the standard formulation the distance decay function has the same λ for all facilities regardless of their attractiveness level. Drezner et al. (2018) suggested that attractiveness levels are not constants but follow some probability distribution. Drezner et al. (2020) suggested to replace the attractiveness multiplier A by a facility dependent distance decay parameter λ. The parameter λ determines the pace of the decline in attracted demand as a function of the distance. The assumption is that the decline in attracted demand of more attractive facilities is slower. Drezner et al. (2022) proposed, to extend the Drezner et al. (2020) model, by adding an extra distance parameter reflecting time spent at the facility. All distances are increased by the same extra

distance. Drezner et al. (2023) investigated locating a competing facility which is also obnoxious to residents.

Movement and Wait Times of Oil Tankers in Northern California

Jordan Taylor, California State University Maritime Academy

Knowledge of an oceangoing vessel's operational status supports environmental and commercial transparency within the maritime domain. The following study uses location and speed values derived from onboard automated identification systems within Northern California to categorize the operational status of oceangoing oil tankers as drifting, underway, anchored, at a pilot station, or alongside. The automated method proposed employs data science tools and established marine navigation techniques to encapsulate the logic and data necessary to produce a semantic object. The object, whose attributes reflect an easy-to-understand statement-of-fact, is offered as a support for improved understanding of commerciality and sustainability within the maritime domain.

(Student Session)

Optimal Video Blogging Production and Advertising Strategies

RuiKang (Jason) Yan, UC San Deigo

Project advisor: Kunpeng Li, Air Force Institute of Technology

Video blogging has become a lucrative business model. Many intertwined factors impact the profitability of a video blogger, such as the number of followers, the video blogger's reputation, video quality, cost of video production, as well as advertising spendings. In this study, we model these major factors in video blogging business and investigate the optimal video production (in-house or outsourcing) and advertising strategies for a video blogger in a two-period setting.

Availability of School Options and Housing Price

Allison Zhou, Maximus Huang

Project advisor: Ming Zhou, San Jose State University

Nationwide, housing prices have jumped two-fold or threefold in American states, including in the areas we live in: California and Northern Texas. Through our research, we want to find ways to alter housing prices to make them more affordable; our first step was to determine what factors contributed to property value. According to the National Bureau of Economic Research, property values increase by around $20 for every $1 spent on school funding and 30% of buyers between the ages of 33-42 named "quality of the school district" as a top factor when choosing their neighborhood (2023 NAR Home Buyers and Sellers Generational Trends). In 2022, U.S. News and World Report ranked the Seattle area near the top of the class, with about 42% of the region's public high schools in the top quarter of schools countrywide so we decided to focus on how high school educational systems impact property values, starting with districts located in King County, Seattle. We hand collected the latitude and longitude points of each high school in that county. By creating a school zone using the math library and multiple latitude and longitude functions, we were able to calculate the distance between the schools and the houses. We would incorporate this data into a final function to discover whether the distance is shorter than our given school zone area. Our model results show that distance to top quality high schools increases property value in King County. The insights derived from this study are anticipated to offer valuable guidance for urban planners, policy makers, and real estate professionals, facilitating methods for equitable housing policies in King County. In the future, we want to increase our specificity on this data by spreading to different parts of the US along with deepening our research about what other factors could have influenced the correlation between educational systems and housing pricing.