

Sessions for Tuesday, June 23

Tuesday, 03:30 PM - 05:00 PM

Contributed Session

➤	Tuesday, 03:30 PM - 05:00 PM, Lindgren Room (A342)	Track: Sustainable Operations & Transforming Supply Chains
	Contributed Session: Sustainability: Digital Technologies and AI in Sustainable Supply Chains	
	Chair(s): Jennifer Nowicki	

158-0319 Implementation of Digital Product Passports in Supply Chains

Yang YU, Student, Hong Kong Polytechnic University, Hong Kong, China

Hau Ling Chan, Assistant Professor, Hong Kong Polytechnic University, Hong Kong, China

As global regulations pivot toward circularity, the emergence of Digital Product Passport (DPP) presents a transformative shift in how firms manage and disclose product information and environmental data. This paper develops a game-theoretic framework to investigate the strategic implementation of DPP within a supply chain comprising a manufacturer (i.e., producer) and a retailer. We analyze how the information transparency of DPP interacts with consumer heterogeneity—specifically, across segments with varying perceptions of perceived quality based on DPP-disclosed recycled content. Our study offers critical insights for both producers and policymakers navigating the trade-offs between mandatory transparency and market positioning.

158-0298 Human-AI Collaborative Governance for Sustainable and Resilient Supply Chain Performance

Harshad Sonar, Assistant Professor, IIM SAMMBALPUR, India

Nikhil Ghag, Assistant Professor, IIM mumbai, India

The adoption of artificial intelligence (GenAI) is transforming supply chains, yet governance of human- AI collaboration remains underexplored. This study examines how collaborative governance influences supply chain resilience and sustainability performance using survey data from 228 managers and CB-SEM. Human-in-the-loop decision rights, algorithmic transparency, and digital trust enhance resilience, which partially mediates sustainability outcomes. Environmental turbulence strengthens these relationships. Findings show that performance gains arise from structured governance rather than technology alone. The study conceptualizes collaborative governance as a dynamic capability integrating resilience and sustainability, offering guidance for designing accountable, trustworthy, and human-centered AI-enabled supply chains.

158-0151 Unveiling the power of purchasing clerks in the upstream sustainable supply chain: Information processing theory

Martin Agyemang, Lecturer, Kingston University London, Nigeria

Peter Adjei-Bamfo, Lecturer, Charles Sturt University, Australia

Richard Asante, Student, Atlantic Technological University, Ireland

Kelvin Mintah, Student, University of Ghana, Ghana

Kwaku Gyan, Post Doc/Researcher, Charles Sturt University, Australia

Compliance with sustainability actions and behaviour considered acceptable in the upstream supply chain is challenging. The study examines how purchasing clerks, who despite their influential role are often overlooked in the extant literature, address these sustainability problems in the cocoa upstream supply chain using social cues. Our study adopts a case study approach to enable us to conduct an in-depth examination. Our research findings explain, among others, how purchasing clerks use social cues to nudge farmers engaged in unsustainable indigenous cultural norms in the upstream cocoa supply chain toward the adoption of socially sustainable actions and behaviour.

158-0228 Modeling Illicit Massacre Business Location Dynamics: A GIS Network Simulation Approach

Jennifer Nowicki, Student, Penn State University, United States

Sergey Naumov, Assistant Professor, Penn State, United States

Kevin Linderman, Professor, Penn State University, United States

Illicit Massacre Businesses (IMBs) often exist within large organizational networks, comparable to traditional corporate structures. By using real IMB network locations and GIS data within agent-based simulations, we explore the built environment & profit/detection tensions to study patterns of IMB facility planning, test interdiction strategies, and evaluate illicit network resilience.

Contributed Session

2	Tuesday, 03:30 PM - 05:00 PM, Cabinet Room (A336)	Track: Sustainable Operations & Transforming Supply Chains
	Contributed Session: Sustainability: Sustainable Operations Strategy: Incentives, Product Lifecycles	
	Chair(s): Mehdi Jourabchi	

158-0110 Designing for Servicizing: Managing Technological Obsolescence through Modular-Upgradable Product Design Strategy

Tina Arabian, Assistant Professor, Mount Royal University, Canada

D. Marc Kilgour, Professor, Wilfrid Laurier University, Canada

Hamid Noori, Professor, Wilfrid Laurier University, Canada

Recent shifts toward accessing product functionality rather than ownership have encouraged manufacturers to adopt servicizing business models. Under servicizing, firms retain product ownership and provide product use rather than transferring ownership to customers, increasing the firm's exposure to technological obsolescence risk. Modular-upgradable product design, which enables independent component replacement and upgrades, offers a potential way to mitigate this risk while supporting circular economy principles. This study examines the interaction between product design choices (upgradable vs. non-upgradable) and business models (selling vs. servicizing), providing insights for firms considering servicizing and the role of upgradable product design in managing technological obsolescence risk.

158-0111 Misaligned Green Incentives: Environmental Targets and Investment Decisions in LSP-Shipper Supply Chains

Mehdi Jourabchi, Assistant Professor, University of Lethbridge, Canada

Tuesday, 03:30 PM - 05:00 PM

D. Marc Kilgour, Professor, Wilfrid Laurier University, Canada

Michael Houghton, Professor, Wilfrid Laurier University, Canada

Logistics service providers (LSPs) and shippers face increasing pressure to improve the environmental performance of freight transportation, yet they often disagree on environmental targets and responsibility for green investment. We develop game-theoretic models of a decentralized LSP- shipper supply chain to examine how consumer preferences, eco-efficiency, and power asymmetry in cost sharing shape environmental target decisions. Each party has an economically optimal environmental target, and divergence between these targets creates an "environmental gap." We characterize conditions under which alignment becomes possible and analyze how unilateral control and negotiated cost-sharing affect green investment incentives, identifying when decentralized decisions can approximate centralized benchmarks.

158-0282 Remanufacturing production and operational performance: A contingency perspective on environmental uncertainty

Altaf Ali, Student, Chalmers University of Technology, Sweden

Patricia van Loon, Associate Professor, Chalmers University of Technology, Sweden

Patrik Jonsson, Professor, Chalmers University of Technology, Sweden

Tarun Agrawal, Associate Professor, Chalmers University of Technology, Sweden

This paper examines whether remanufacturing production and operational performance contingent on environmental uncertainty level (EUL), by investigating production planning and control (PPC) practices across 6 plants with low, moderate, and high EULs. Results show production and operational performance is contingent on EUL.

158-0345 Buyer's Strategic Commitment to Contract Terms Before Knowing the Outcome of a Sustainability Audit

Hossein Rikhtehgar Berenji, Associate Professor, Pacific University, United States

Nagesh Murthy, Professor, University of Oregon, United States

We model a supply chain in which the buyer audits the supplier's compliance with the social and environmental code of conduct. We investigate the effect of the buyer's upfront commitment to price and quantity on supplier's compliance to the sustainability code of conduct.

Contributed Session

3	Tuesday, 03:30 PM - 05:00 PM, Marie-Louise Ekman Room (A328)	Track: Geopolitics & Supply Chains
	Contributed Session: Geopolitics: Conflict & Security	
	Chair(s): Neil Geismar	

158-0044 Logistics, Counter-Logistics, and Strategy: Supply Chain Resilience in the Swedish Tesla Conflict

Abe Walker, Assistant Professor, Univ of North Carolina at Fayetteville, United States

This study examines a protracted labor conflict in the automotive sector as a natural experiment in supply chain resilience amid geopolitical unrest. When labor unions blocked maritime ports and obstructed delivery of key components, the firm displayed considerable operational agility, rerouting supply lines to bypass chokepoints. By shielding its core manufacturing assets while importing guest workers, the firm leveraged modal shifts, redundancies, and regulatory fragmentation to maintain its operations. Findings illustrate that modern "just-in-time" networks, though vulnerable to disruption, exhibit significant resilience that may enable them to ensure continuity despite localized labor shocks and growing geopolitical uncertainty.

158-0149 Shadow Supply Chains: Informal Channel Dynamics and Infrastructure Contingencies in Conflict Food Security

Sina Behzadifard, Student, Stockholm School of Economics, Sweden

Hossein Jan Pour, Student, Stockholm School of Economics, Sweden

Martin Mohaghegh, Assistant Professor, Vienna Univ of Econ & Business Admin, Austria

Conflict drives acute food insecurity, yet populations continue obtaining food despite formal supply chain collapse. This study investigates shadow supply chains, defined as informal, semi-formal, and illicit channels substituting for failed formal supply chain systems, using panel data covering 187 countries from 2000 to 2022. A macro-level Shadow Supply Gap indicator captures discrepancies between observed consumption and formally recorded supply. Event study findings reveal a one-year activation buffer in low-capacity states before shadow channel exhaustion, while high-capacity net-exporting states experience export diversion that renders informal channels redundant. Results establish shadow infrastructure capacity as a key contingency shaping conflict food security

158-0348 How to weaponise supply chains? Lessons from the CIA Cold War archives.

Lukasz Bednarski, Post Doc/Researcher, Stockholm School of Economics, Sweden

This study aims to examine practical insights from the Cold War period, when political divisions and tensions significantly affected supply chains. To achieve that, the study analyses declassified CIA archives from 1947 to 1992 on leveraging Oil & Gas supply chains against the Communist bloc to identify and theorise how governments weaponise supply chains amid geopolitical tensions to achieve their strategic goals. The research identifies distinct forms of supply chain weaponisation, examines their effectiveness through a longitudinal analysis and systems thinking lens, and proposes a typology-based framework.

158-0104 The Base of the Supply Chain: Extracting Raw Materials while Dealing with the Local Population

Neil Geismar, Professor, Texas A&M University College Station, United States

We examine how a firm can maximize profit by extracting raw materials from a marginalized region of an ill-governed country. Often such firms do not properly compensate the population, which leads to piracy, sabotage, disruption, or rebellion. To protect its assets, the firm must monitor the population's level of discontent to know whether extraction operations can continue unabated and when to negotiate a profit-sharing agreement. We use optimal control theory and differential games to derive strategies for the firm and for rebels who try to improve the region's compensation by protests and recruitment.

Contributed Session

4	Tuesday, 03:30 PM - 05:00 PM, Yinka Shonibare Room (A536)	Track: Healthcare Operations Management
	Contributed Session: Healthcare: Policy & Incentives	
	Chair(s): Dwaipayan Roy	

158-0043 The NHS Blended Payment Scheme: Incentive Issues and Optimal Reform

Sara Mohammadi, Student, University College London, United Kingdom
Kenan Arifoglu, Associate Professor, University College London, United Kingdom
Bilal Gokpinar, Professor, University College London, United Kingdom

NHS England's blended payment scheme includes fixed and variable elements tied to hospitals' planned and actual activity levels to support resource planning. Utilizing game-theory modelling and empirical analysis, we show that hospitals' costs and readiness under this payment model are suboptimal. We propose a new payment model to address this.

158-0338 The Impact of Bundled Payment on Healthcare Delivery

Anand Bhatia, Assistant Professor, IE BUSINESS SCHOOL, Spain
Jayashankar Swaminathan, Professor, University of North Carolina Chapel Hill, United States

This study examines how changes in reimbursement structures, particularly bundled payment programs, influence hospital operational strategies. Using detailed data, we analyze impacts on care standardization, patient length-of-stay variation, and staffing decisions across service lines. We show that bundled payments alter coordination and resource allocation by redefining the unit of accountability around care episodes, leading to measurable changes in service delivery. Our findings highlight heterogeneity across episodes and document how providers adjust operational processes in response to financial incentives. Together, the results provide evidence that performance improvements arise not only from cost reduction but also from changes in service delivery design.

158-0293 The Operational Impact of Public Funding on Vaccine Clinical Trial Timelines: An Empirical Analysis

Milad Asadpour, Student, Queen Mary University of London, United Kingdom
Guven Demirel, Associate Professor, Queen Mary University of London, United Kingdom
Brigitte Granville, Professor, Queen Mary University of London, United Kingdom

In the biopharmaceutical ecosystem, a manufacturer's capacity to invest in diverse range of projects is often constrained by the capital drain of clinical trials. In this paper, we argue that public funding acts as a macro-economic stabilizer; by de-risking the biological development through state-backed support, the government creates the necessary resources for manufacturers to execute complex downstream operations. We use a Fixed Effects OLS regression model to determine whether state-backed vaccine candidates in the U.S. market experience shorter Phase 3 clinical trial durations. Our findings show that the source of public funding fundamentally dictates its impact on development timelines.

158-0176 Publicly Elected Leaders and Contraceptive Uptake: Evidence from India

Amir Karimi, Assistant Professor, University of Texas at San Antonio, United States
Dwaipayan Roy, Assistant Professor, University of Virginia, United States

In developing economies, governments play a central role in advancing contraceptive uptake. However, contraceptive uptake remains low despite extensive government initiatives. Using a quasi-experimental design based on close elections in India, we examine the impact of publicly elected female (vs. male) legislators on contraceptive uptake. We find that female legislators increase the uptake of intrauterine devices—a long-acting, concealable, reversible contraceptive—while having no effect on short-acting reversible (i.e., oral pills) or permanent methods (i.e., tubal ligation). We contribute to the global health and inclusive operations literature by demonstrating that female legislators enable a stronger fit between method characteristics and client needs.

Contributed Session

5	Tuesday, 03:30 PM - 05:00 PM, Rana Begum Room (A538)	Track: Behavioral Operations
	Contributed Session: Behavioral Operations: Learning & Human Decision-Making	
	Chair(s): Reēju Guha	

158-0201 Human Decision Making with Digital Twin Support in Inventory Planning

Pascal Wolff, Associate Professor, Ningbo Institute for Supply Chain Innovation, MIT Global SCALE Network, China

We examine how digital twin-powered decision support tools influence human inventory management decisions. Using a controlled experiment based on a dual-sourcing problem, participants first managed inventory using historical information only and then repeated the task with an interactive predictive dashboard simulating future inventory levels, costs, and service levels. Results from 32 participants show that access to the digital twin tool reduced total costs by 21% and stabilized ordering behavior, moving decisions closer to a near-optimal benchmark. However, the additional predictive information increased perceived cognitive workload. The findings highlight both the performance benefits and human-factor trade-offs of digital twin-supported planning.

158-0331 Guided or Dependent? How Decision Support Systems Shape Learning in Dynamic Supply Chains

Viviana Oberhofer, Post Doc/Researcher, University of Innsbruck, Austria
Elda Doka, Student, University of Innsbruck, Austria
Stefan Haeussler, Associate Professor, University of Innsbruck, Austria

Tuesday, 03:30 PM - 05:00 PM

In complex, interdependent decision environments, organizations increasingly rely on Decision Support Systems (DSS). While DSS improve accuracy and efficiency, they may also induce overreliance and hinder learning once support is removed. Whether DSS foster learning or promote cognitive outsourcing remains unclear. We address this question through an online experiment in a two-tier supply chain setting, where participants play two consecutive games under varying DSS conditions. DSS support is removed in the second game to assess learning transfer and overreliance. Performance measures and self-assessments capture learning outcomes. This study examines whether DSS enhance transferable decision-making capabilities in dynamic environments.

158-0324 NEUROscience driven HuMAN-Machine collaboration for sustainable productivity in Smart Manufacturing Systems

Federica Costa, Assistant Professor, Politecnico Di Milano, Italy

Alberto Portioli-Staudacher, Professor, Politecnico Di Milano, Italy

Over the past decades, the widespread adoption of digital technologies and advanced automation has not always led to proportional productivity gains, giving rise to the so-called "productivity paradox." In manufacturing, higher levels of automation and digitalization do not automatically translate into improved performance; outcomes depend on how technologies are integrated with organizational processes and human capabilities. Although automation reduces physical workload, it increases cognitive demands, including system monitoring, adaptive decision-making, and real-time coordination. This research develops methodologies for modeling collaborative systems, defining task allocation strategies, and evaluating operational performance integrating neuroscience-based measurements.

158-0081 Intra-day And Long-term Learning And Forgetting In Gig Work

Reeju Guha, Assistant Professor, CUNEF University, Spain

Daniel Corsten, Professor, IE BUSINESS SCHOOL, Spain

Maqbool Dada, Professor, Johns Hopkins University, United States

Online gig platforms depend on self-scheduling workers, but intermittent participation creates service gaps that trigger forgetting and degrade performance. We develop a framework that combines econometric estimation with prescriptive dispatch optimization to quantify how intra-day and long-term learning jointly shape task outcomes. Using data from a European online-grocery platform, we estimate long-term (recency-weighted) and intra-day learning and forgetting in a single model. Results show intra-day learning reduces picking time and exhibits nonlinear effects on delays and stockout substitutions. Complexity and batching improve learning up to a threshold. A proposed assignment policy improves pick times, delays, and substitution quality.

Contributed Session

Tuesday, 03:30 PM - 05:00 PM, Room A720

Track: Supply Chain Management



Contributed Session: SCM: Supply Chain Resilience and Agility

Chair(s): Ismail Golgeci

158-0191 Collaborative Supply Chain Resilience under Persistent Global Disruptions

Weiyan Li, Assistant Professor, Université Catholique de Lyon, France

Ming Lim, Professor, University of Glasgow, United Kingdom

Recent global disruptions—including pandemics, geopolitical conflicts, and systemic logistics crises—have challenged traditional approaches to supply chain resilience. Existing research largely emphasises organisational capabilities and short-term disruptions. This study integrates Contingency Theory and Resource Dependency Theory to explain resilience at the supply chain level. Based on semi-structured interviews with firms in China's automotive supply chain, the findings identify collaboration-based strategies emerging under persistent disruption conditions. These include short-term alliances, resource mobilisation, and dynamic operational adjustments. Building on these insights, the study proposes an Environment- Dependency-Collaboration framework that explains how supply chain resilience emerges through adaptive collaboration under sustained uncertainty.

158-0289 Extending Supply Chain Agility to Resource-Constrained Ethnic SMEs

Sue Abdinour, Professor, Wichita State University, United States

This study develops a theory-based framework extending supply chain agility to resource-constrained small and medium-sized enterprises (SMEs). Drawing on survey evidence from ethnic SMEs and a validated agility architecture, we conceptualize agility as visibility and velocity within a sensing-comprehending-responding cycle. We argue that capability asymmetry fundamentally shapes agility formation in SMEs, where limited resources and decision constraints alter response effectiveness. Within this context, digitization augments—rather than substitutes for—owner/manager decision-making. The framework contributes by theorizing a human-in-the-loop model of agility and positioning SME constraints as boundary conditions shaping agility capability formation.

158-0048 A Temporal and Multidimensional Approach to Supply Chain Resilience

Mahour Parast, Professor, Arizona State University Tempe, United States

Adegoke Oke, Associate Professor, Arizona State University Tempe, United States

Ismail Golgeci, Professor, University of Auckland, New Zealand

Kayvan Lavassani, Associate Professor, North Carolina Central University, United States

This study advances supply chain resilience (SCR) as a multidimensional and temporal construct. We conceptualize SCR as both resource and capability and classify it as inherent, anticipative, or adaptive, capturing path- and time-dependent trajectories. The Dynamic Capability View underpins the resource- capability lens, while the Family Resilience Model informs the temporal perspective. A two-part study validates the framework. Study 1 uses survey data and structural equation modeling, confirming the conceptualization and showing that only adaptive resilience predicts disruption response and recovery. Study 2 employs archival data and econometric modeling, replicating results for financial resilience. We offer an evolutionary view and guidance.

N	Tuesday, 03:30 PM - 05:00 PM, Schumpeter Room (A133) Track: Not-for-Profit Operations Management Contributed Session: Not-for-Profit Operations Management Chair(s): Lisanne van Rijn
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158-0134 Optimal Taxation and Enforcement Policies for Alcohol Markets

Sayan Chowdhury, Assistant Professor, Fore School of Management, India

Satyajit Roy, Student, Indian Institute of Management Bangalore, India

Despite economic progress, coexisting legal and unregulated alcohol markets generate severe social and economic consequences. This study explores how taxation of legal alcohol and enforcement against illicit producers can be jointly optimized to improve welfare, capturing strategic interactions between the government, legal sellers, and illicit sellers using a game-theoretic model. Findings show that lower taxation narrows the price gap, discouraging illicit consumption, while excessive taxation expands illegal markets despite stronger enforcement. Governments in developing economies should therefore pursue balanced strategies combining moderate taxation with targeted enforcement to protect public health and preserve fiscal revenues.

158-0231 Incentive Schemes for Task Reassignment: The Case of Mobile Outreach Teams

Harwin De Vries, Associate Professor, Rotterdam School of Management, Netherlands

Estelle Prinsen, Student, Erasmus University Rotterdam, Netherlands

Lisanne van Rijn, Assistant Professor, Rotterdam School of Management, Netherlands

Evelot Westerink-Duijzer, Post Doc/Researcher, HZ University of Applied Science, Netherlands

Delivering healthcare services to remote populations in developing countries often relies on mobile outreach teams deployed by non-governmental organizations. The teams operate with substantial autonomy due to their knowledge of local conditions. While decentralized decision-making can improve responsiveness, it creates challenges in aligning team behavior with organizational objectives. Many organizations use financial incentives such as fee-for-service payments to stimulate productivity, but these schemes may unintentionally discourage collaboration between teams when task reallocation would improve overall performance. This research investigates how incentive schemes can be designed to better align team and organizational goals.

158-0173 Keep, Donate,... or Sell? Charities' Survival in Second-Hand Apparel Markets

Clara Carrera, Assistant Professor, IESE Business School, Spain

Gemma Berenguer, Associate Professor, Universidad Carlos III de Madrid, Spain

Charity-operated second-hand clothing markets face mounting pressure from online resale platforms and ultra-fast fashion. Motivated by a European charity, we develop an infinite-horizon analytical model of consumer disposal and purchasing decisions to study how these forces threaten charitable resale viability. Consumers are heterogeneous in product valuation and selling cost, generating endogenous donation and resale supply. We show that sufficiently low platform fees flood the secondary market, driving prices below the charity's sorting cost and excluding it from resale. We further analyze how Extended Producer Responsibility legislation, ecodesign regulation, and consumer education affect charity survival, revealing non-obvious policy trade-offs.

Sessions for Wednesday, June 24

Wednesday, 09:00 AM - 10:30 AM

Contributed Session

11	Wednesday, 09:00 AM - 10:30 AM, Lindgren Room (A342)	Track: Sustainable Operations & Transforming Supply Chains
	Contributed Session: Sustainability: Circular Supply Chains and Sustainable Transformation	
	Chair(s): Christoph Baldauf	

158-0161 Agency perspective on multi-tier supply chain circularity

Dawid Pasternak, Student, Chalmers University of Technology, Sweden

Songul Tekin, Student, TH Köln, Germany

Ala Arvidsson, Associate Professor, Chalmers University of Technology, Sweden

Circularity in multi-tier supply chains requires alignment and engagement across actors, yet many initiatives remain fragmented. This study investigates how automotive OEMs, Tier-1 electronics suppliers, and Tier-2 semiconductor manufacturers collaborate on circular practices such as reuse, remanufacturing, and repurposing. Drawing on agency theory, we aim to answer how supply chain collaborations for circularity are carried out given underlying goal incongruences, information asymmetries, and differing risk preferences. Using five cases, we compare how circular initiatives are organized across tiers and how information, resources, and risks are shared. Findings reveal the alignment and collaboration mechanisms that firms use to make circularity feasible.

158-0274 Strengthening Circular Supply Chains for Plastic Waste Recycling in Indonesia: A Systematic Literature Review

Rieziq Suryo, Student, University of Edinburgh, Indonesia

This study systematically reviews the literature on reverse logistics networks supporting circular economy practices for plastic waste management in Indonesia. Following the PRISMA 2020 framework, articles published between 2014 and 2025 were retrieved from academic references related to reverse logistics, plastic waste, circular economy, and Indonesia. Selected studies were analyzed through content analysis to identify key themes including supply chain governance structures, coordination mechanisms among informal waste collectors and recycling plants, regulatory frameworks, and material recovery performance. The findings synthesize drivers and barriers to effective plastic waste reverse logistics and propose a conceptual framework for strengthening circular supply chains.

158-0135 Implementation circular business model in a disruptive environment: The role of dynamic decision-making capability

Richard Asante, Student, Atlantic Technological University, Ireland

Aurora Dimache, Lecturer, Atlantic Technological University, Ireland

Vicky Orouke, Lecturer, Atlantic Technological University, Ireland

Graham Heaslip, Professor, Atlantic Technological University, Ireland

George Onofrei, Lecturer, Atlantic Technological University, Ireland

The study examines the interrelations among regulatory and market conditions, dynamic decision-making capability (a type of dynamic capability developed through planning, creativity, and spontaneity) and circular business model (CBM) implementation by focal companies. Data from 352 focal manufacturing companies were analysed using partial least squares structural equation modeling and necessary condition analysis. The results demonstrate that, although regulatory and market conditions significantly influence the development of dynamic decision-making capability and CBM implementation, they are not necessary conditions. In contrast, dynamic decision-making capability not only significantly influences CBM implementation but is also a necessary condition for successful implementation by focal firms.

158-0260 Circular business model innovation through digital transformation: A dynamic capability perspective

Mandana Emad, Student, Chalmers University of Technology, Sweden

Ala Arvidsson, Associate Professor, Chalmers University of Technology, Sweden

Lisa Govik, Associate Professor, Chalmers University of Technology, Sweden

Henrik Agndal, Professor, University of Gothenburg, Sweden

This paper focuses on how incumbent firms can embrace circular business model innovation through digital transformation. We study the interfaces and interactions of digital tools (databases, dashboards, AI-supported systems) and their stakeholders within an incumbent firm embracing a circular business model. We examine how they become integrated into the governance of circular business models and how organizations adapt to their use. Data is collected through interviews, internal documents, site visits, and workshops. Using dynamic capability, we study firm-level abilities from sensing to seizing to transforming and identify mechanisms through which digital tools become embedded in governance to operationalize circular business models.

158-0072 Social Supply Chain Mindfulness and Resilience

Chi Zhang, Associate Professor, Kedge Business School, France

mengyang wang, Associate Professor, Huazhong University of Science & Technology, China

anne ratsimandres, Assistant Professor, Kedge Business School, France

marc ohana, Professor, Kedge Business School, France

Drawing on high reliability theory, this study examines how socially sustainable supply chain mindfulness enhances supply chain resilience through socially sustainable sourcing, and how digital technology advancement shapes this process. Using three-wave survey data from 297 UK manufacturing firms, we test a moderated mediation model. The findings show that social supply chain mindfulness fosters proactive socially sustainable sourcing, which in turn strengthens supply chain resilience. Moreover, digital technology advancement amplifies the resilience benefits of socially sustainable sourcing. The study highlights social sustainability as a core reliability mechanism rather than a purely ethical or compliance concern in supply chains.

12	Wednesday, 09:00 AM - 10:30 AM, Cabinet Room (A336)	Track: Sustainable Operations & Transforming Supply Chains
	Contributed Session: Sustainability: Sustainable Transportation and Logistics	
	Chair(s): Tolga Bektas	

158-0057 Reducing Empty Miles in Rural Logistics Systems

Supul Muhandiram, Student, University of Manitoba, Canada
 Narendra Malalgoda, Assistant Professor, University of Manitoba, Canada
 Srimantoora Appadoo, Professor, University of Manitoba, Canada

This study examines rural transportation optimization through two related agricultural logistics challenges. The first investigates grain transportation impacts arising from grain elevator closures and infrastructure consolidation, focusing on spatial inefficiencies and strategies to alleviate increasing hauling burdens. The second analyzes reverse logistics in crop farming systems, emphasizing farm waste generation, facility capacity constraints, and disposal planning. While both flows depend on the same rural transportation networks, they are typically evaluated separately. This research develops a GIS-based analytical framework to assess routing, capacity, and distance effects across these systems. The study identifies infrastructure-driven cost pressures and opportunities to improve efficiency.

158-0250 Ripple Effects from Transitioning to Sustainable and Resilient Transport Supply Chains

Maria Bjorklund, Professor, Linköping University, Sweden
 Niklas Hall Simm, Assistant Professor, Linköping University, Sweden
 Henrik Gillström, Associate Professor, Linköping University, Sweden

Transforming supply chains into becoming greener can introduce new disruption dynamics. This study examines ripple effects, where disturbances (e.g., regulatory- or organizational change) can trigger cascading disruptions. Empirical data were collected through workshops and structured interviews with nine respondents from three companies engaged in green transport initiatives. Drawing on a Complex Adaptive Systems lens, the findings illustrate how disruptions ripple through internal coordination and interorganizational collaboration, affecting sustainable transport performance and logistics service. The study contributes to Sustainable Operations and Supply Chain Management by highlighting the role of collaboration and resilience when transforming supply chains toward greener transport systems.

158-0033 Assessing the Impact of New Food Pantries on Customer Access to Food

Kenneth Boyer, Professor, Ohio State University, United States
 Nil Karacaoglu, Assistant Professor, The Ohio State University, United States
 John Lowrey, Assistant Professor, Northeastern University, United States
 Nilang Vyas, Student, Ohio State University, United States

We examine an online platform, Plentiful, that provides information/scheduling assistance to food insecure users in NYC. Analysis examines a subset of pantries that onboarded to the platform from 2016-2025. Over 18 million customer visits were recorded. A staggered difference-in-difference analysis examines treated users that had a new pantry open within 1 mile of their focal pantry versus controls without. While treatment enhances repeat rate and the total visits per user. Additional analysis indicates that the first new pantry substantially enhances access, while additional pantries have a non-significant effect, suggesting a misallocation of resources by the national and local foodbanks.

158-0221 Designing Urban Pedestrian Zones for Sustainable Mobility and Urban Logistics

Ekin Özgürbüz, Student, University of Liverpool, United Kingdom
 Tolga Bektas, Professor, University of Liverpool, United Kingdom
 Ann Campbell, Professor, University of Iowa, United States
 Çağatay Iris, Associate Professor, University of Liverpool, United Kingdom
 Grigorios Kasapidis, Assistant Professor, University of Liverpool, United Kingdom

Urban pedestrianisation policies are increasingly used in sustainable mobility strategies to reduce vehicle dependence while improving public space quality. This paper develops a mixed-integer optimisation model that integrates behavioural spatial interaction with network design decisions to determine which streets should be pedestrianised while preserving goods delivery access through a connected motorised network. Pedestrianisation generates economic benefits through increased footfall, shaped by spatial externalities including agglomeration among adjacent pedestrian streets and spillover toward nearby gateway streets. Computational experiments on urban network examples demonstrate how agglomeration, spillover, and behavioural distance parameters influence the structure and economic performance of pedestrianisation patterns.

Contributed Session

13	Wednesday, 09:00 AM - 10:30 AM, Marie-Louise Ekman Room (A328)	Track: Geopolitics & Supply Chains
	Contributed Session: Geopolitics: Geopolitical Risk and Supply Chain Reconfiguration 2	
	Chair(s): Nishat Choudhury	

158-0147 Measuring Firm-Level Geopolitical Risk from Earnings Call Transcripts: A Sentence-Level Machine Learning Approach

Zhengzhe Peng, Student, University of Bristol, United Kingdom
 Woon Sau Leung, Professor, University of Southampton, United Kingdom
 Jiong Sun, Associate Professor, Purdue University, United States
 Gianluca Veronesi, Professor, University of Bristol, United Kingdom
 Bangdong Zhi, Lecturer, University of Bristol, United Kingdom

Wednesday, 09:00 AM - 10:30 AM

Using earnings conference call transcripts and a systematic binary annotation framework, this study develops a context-aware measure of firm-level geopolitical risk. We manually label sentences and train a supervised machine learning classifier to identify geopolitical risk-related disclosures, distinguishing substantive discussions from incidental mentions. Applying the classifier to transcripts from 2005-2025, we construct a firm-quarter geopolitical risk index and merge it with financial data. Regression results show that higher geopolitical risk is associated with significantly larger corporate inventory holdings, suggesting that firms adjust operational strategies in response to geopolitical uncertainty. The study provides a precise disclosure-based measure of firm-level geopolitical risk.

158-0227 Regulated (Dis)order: The Impact of Tariff Exemptions in Shaping Global Supply Chain Structures

Jennifer Nowicki, Student, Penn State University, United States
Fan Zou, Assistant Professor, The Pennsylvania State University, United States
Jared Edgerton, Assistant Professor, The Pennsylvania State University, United States
Kevin Linderman, Professor, Penn State University, United States

Trade agreements often have unforeseen ripple effects on supply networks; sudden shifts can therefore create substantial disruptions. We compile a novel dataset of tariff exemptions, import relationships, and supply base complexity, then employ machine learning and empirical models to examine whether firm exemptions and trade policy sensitivity influence sourcing strategies.

158-0138 AI-Enabled Supply Chain Resilience under Geopolitical Disruptions

Prosenjit Roy, Student, University of Regina, Canada
Sharfuddin Khan, Associate Professor, University of Regina, Canada
Yasanur Kayikci, Associate Professor, Sheffield Hallam University, United Kingdom
Muhammad Mubaraik, Associate Professor, Heriot-Watt University, United Kingdom

Supply chains are increasingly disrupted by geopolitical tensions, including conflicts, sanctions, and trade restrictions. This paper develops a supply chain resilience framework to address such disruptions. Through a systematic literature review, resilience indicators are identified and classified across seven core supply chain functions, then validated using meta-analysis. Artificial intelligence is then employed to develop a digitally enabled framework that incorporates these indicators to support real-time visibility, risk assessment, simulation, and adaptive decision-making through digital twin environments. The proposed framework enables early risk detection, scenario analysis, and coordinated response strategies, helping organizations anticipate disruptions and sustain resilient supply networks.

158-0325 Stock Market Reactions to Supply Chain Restructuring in Response to Mega-Disruptive Events

Nishat Choudhury, Post Doc/Researcher, Aalto University, Finland
Seongtae Kim, Associate Professor, Aalto University, Finland
Sangho Chae, Associate Professor, University of Warwick, United Kingdom
Byung-Gak Son, Senior Lecturer, Cass Business School, United Kingdom

Mega-disruptive events (e.g., COVID-19, trade wars) have prompted many firms to engage in supply chain restructuring (SCR), yet its impact on firm market value remains ambiguous. Analyzing 502 SCR events (2018-2024), we find that SCR does not, on average, enhance firm market value. Proactive SCR yields positive market reactions compared to reactive SCR, but prior performance dampens this effect. Spillover effects on suppliers, partners, and customers' market reactions align with focal firms, while remain unaffected on competitors. Long-term analyses reveal mostly negative impacts. Overall, firms should tailor SCR strategies based on prior financial health, spillover risks, and potential long-term drawbacks.

Contributed Session

14	Wednesday, 09:00 AM - 10:30 AM, Yinka Shonibare Room (A536)	Track: Healthcare Operations Management
	Contributed Session: Healthcare: Telehealth	
	Chair(s): Haldun Aytug	

158-0129 Telehealth's Double-Edged Sword: Hidden Costs of Expanding Access to Virtual Care

Masoud Kamalahmadi, Assistant Professor, Miami Herbert Busienss School, United States
Jong Myeong Lim, Assistant Professor, Miami Herbert Busienss School, United States

Leveraging variation in telehealth adoption rates across different physicians working in a major health system, we show that telehealth's potential to expand access may come at the cost of increased workload for physicians and revenue losses for healthcare organizations.

158-0284 Enhancing Patient Care Through Telemedicine: Linking Primary Care with Specialists

Mohammad Delasay, Associate Professor, Stony Brook University, United States
ARVIND SAINATHAN, Associate Professor, NEOMA Business School, France
Saligrama Agnihotri, Professor, Binghamton University, United States
Nan Liu, Professor, Boston College, United States

We investigate how using telemedicine and e-consultation platforms to link primary care doctors with specialists can enhance patient care and coordination. We also examine how referral choices and resource allocation are affected by different payment methods.

158-0271 Impact of Telehealth on Opioid Use Disorder Treatment

Xiguang Liu, Student, University of Florida, United States
Berkay Akyapi, Assistant Professor, University of Florida, United States
Haldun Aytug, Professor, University of Florida, United States
Emre Demirezen, Associate Professor, University of Florida, United States
Liangfei Qiu, Professor, University of Florida, United States
Md Mahmudul Hasan, Assistant Professor, University of Florida, United States

Wednesday, 09:00 AM - 10:30 AM

Since its approval in March 2020, telehealth usage for the delivery of opioid use disorder treatment with buprenorphine prescriptions has increased steadily in the USA. In this study, we aim to measure the true impact of telehealth usage on health and financial outcomes. Using a dataset containing visits of eight thousand patients over an eighteen-month period, we show that patients who use telehealth have about 23% lower odds of dropping out of the treatment plan. This effect remains robust and is not conditional on the presence of concurrent counseling services. Remaining work aims to extend these results.

158-0286 Wellbeing of the Vulnerable: A Review of Telemedicine for Safety Net Groups

Meera Simon C, Assistant Professor, Masters' Union School of Business, India

Telemedicine has emerged as a vital tool for enhancing healthcare access and privacy for safety net populations, including low-income, uninsured, and rural communities. This review examines its utility in bridging gaps for these vulnerable groups, emphasising improved privacy through secure virtual platforms that reduce stigma and data breaches associated with in-person visits. Key findings reveal telemedicine boosts access by overcoming transportation barriers, shortening wait times, and enabling remote monitoring, with 75% of participants reporting higher satisfaction and adherence. Challenges like digital divides are addressed via subsidised devices. Overall, telemedicine fortifies safety nets, promoting equitable care in resource-limited settings.

Contributed Session

15	Wednesday, 09:00 AM - 10:30 AM, Rana Begum Room (A538)	Track: Management of Technology
	Contributed Session: Technology: AI, Cybersecurity, and Systemic Risk	
	Chair(s): Jennifer Zhang	

158-0076 Mining Cyber Risks from Employee Reviews

Qian Deng, Student, University of Iowa, United States

Ji Sui, Assistant Professor, SUNY Polytechnic Institute, United States

Feng Mai, Associate Professor, University of Iowa, United States

Employee reviews provide a rare, unvarnished window into a firm's internal operations. We employ machine learning to map this unstructured discourse to latent cybersecurity risk constructs. By exposing the specific cultural and procedural frictions hidden inside the corporate black box, our approach offers a new leading indicator of cybersecurity incidents.

158-0236 Insuring AI Systems: Human Oversight and the Limits of Autonomous Deployment

Mina M. Iravani, Post Doc/Researcher, Oxford University, United Kingdom

Agni Orfanoudaki, Associate Professor, Oxford University, United Kingdom

Mihalis Markakis, Associate Professor, IESE Business School, Spain

As AI systems become embedded in business operations, managing the financial consequences of algorithmic errors is critical for sustainable deployment. This paper studies the role of human oversight in the insurability of AI systems and when fully autonomous operation is optimal. Insurability is governed by the marginal accumulation of error risk at the autonomy boundary rather than the total probability of tail errors. For self-insured developers, fully autonomous deployment may therefore be suboptimal, highlighting the value of human-in-the-loop validation. Extending the analysis across tasks shows that although generalizability increases error exposure, it can simultaneously create room for larger autonomous region.

158-0310 THE PARADOX OF PERFECTION: AI ALIGNMENT AND SYSTEMIC MARKET FRAGILITY

Miles Yang, Associate Professor, Macquarie University, Australia

This study explores the paradox of perfection in agentic AI systems. While firms use alignment mechanisms to ensure uniform optimization, this can lead to behavioral isomorphism, reducing systemic resilience. Through multi-agent simulations of supply markets, the research finds that strict alignment increases policy convergence, causing synchronized failures and shortening market survival. Supply interconnectivity further erodes the benefits of diversity. However, adaptive objective re-weighting can emerge under stress. The findings reveal a critical governance trade-off: perfecting local alignment may inadvertently destroy market-level robustness by eliminating necessary behavioral diversity.

158-0219 Generative AI and the Transformation of Cybercrime Operations

Jiaxiu He, Assistant Professor, UT Arlington, United States

Jennifer Zhang, Professor, University of Texas Arlington, United States

Amir Alisha Syed, Student, UT Arlington, India

GenAI is rapidly reshaping how digital technologies are adopted and deployed across organizations, including illicit ones. This study examines how the public release of LLMs alters the technological capabilities and operational processes of cybercriminal networks. Treating the launch of GenAI tools as an exogenous technological shock, we analyze shifts in cybercrime activities such as phishing, fraud, and social engineering. Using large-scale digital trace data, the study investigates how GenAI reduces knowledge-barriers, lowers operational costs, and enables scalable automation. The findings contribute to research on management of technology by showing how emerging AI technologies transform operational structures in decentralized digital ecosystems.

Contributed Session

16	Wednesday, 09:00 AM - 10:30 AM, Room A720	Track: Supply Chain Management
	Contributed Session: SCM: Digital Innovation and Technology-Enabled Supply Chains	
	Chair(s): Peter Shi	

158-0187 Adoption Without Integration: Compensatory Innovation in Fragmented Logistics Systems

Mariam Ashraf Aziz Saad, Student, Queen Mary University of London, United Kingdom

Wednesday, 09:00 AM - 10:30 AM

Innovation in logistics is widely expected to improve coordination and enable integrated supply chains. Yet in many contexts digital technologies spread while coordination problems persist. This study examines why technological capability does not translate into integrated logistics systems. Drawing on qualitative interviews across Egypt's logistics ecosystem, the analysis combines institutional theory and absorptive capacity to explain this gap. The findings show that institutional pressure encourages technology adoption while fragmented governance prevents integration across organisational interfaces. Firms respond by developing compensatory innovation, creating technological and organisational solutions that stabilise operations and manage coordination failures rather than transforming the system.

158-0114 Asymmetric Spillovers of Digital Transformation on Green Innovation Along the Supply Chain: Evidence From China

Li jiaxuan, Student, Dalian University of Technology, China

Qu Ying, Professor, Dalian University of Technology, China

Enhancing green innovation across supply networks is vital for sustainable development. Using panel data for Chinese A-share listed firms from 2010-2022, this study investigates how focal firms' digital transformation affects the green innovation of suppliers and customers. The results reveal an asymmetric spillover effect: digital transformation suppresses suppliers' green innovation while stimulating that of customers. Mechanism analyses suggest that improvements in total factor productivity and strengthened bargaining power drive this asymmetry. Analyses show that larger firm size, state ownership, stronger market competition, and more stable supply chain relationships weaken the negative supplier effect while amplifying the positive customer effect.

158-0203 Leveraging Blockchain for Product Quality Transparency in a Fresh Supply Chain

Qingyu Zhang, Professor, Shenzhen University, China

Yang Yang, Student, Shenzhen University, China

Mei Cao, Professor, University of Wisconsin - Superior, United States

This study examines how blockchain enhances quality information disclosure in fresh agricultural supply chains. Using a game-theoretic model, we show how blockchain's transparency and immutability affect supplier preservation efforts, pricing decisions, and supply chain performance, considering consumer demand elasticity for freshness amid rising concerns over product safety and information reliability.

158-0027 Operational Transparency in Zero Waste Management

Necati Ertekin, Associate Professor, University of Minnesota, United States

Atalay Atasu, Professor, INSEAD, France

Amitava Chattopadhyay, Professor, INSEAD, France

Luk Van Wassenhove, Emeritus Professor, INSEAD, France

Most zero waste programs struggle to meet recycling targets due to low resident engagement, partly because program outcomes—such as resource recovery—may be intangible to residents. This study investigates (i) whether operational transparency—making the zero waste process and its outcomes visible—improves resident engagement when outcomes are perceived as intangible, and (ii) how framing these outcomes as tangible, altruistic (broader societal) or utilitarian (personal or local) benefits to residents changes this effect.

Contributed Session

17	Wednesday, 09:00 AM - 10:30 AM, Schumpeter Room (A133)	Track: Service Operations Management
	Contributed Session: Service Operations Management: Retail Operations and Omnichannel Services	
	Chair(s): Fredrik Eng-Larsson	

158-0082 Improving Picking Performance in Shared-Asset Online Grocery Platforms via Temporal Decoupling and Role Specialization

Reeju Guha, Assistant Professor, CUNEF University, Spain

Daniel Corsten, Professor, IE BUSINESS SCHOOL, Spain

We analyze order-fulfillment strategies in online grocery platforms via a typology of resource ownership and operational control. Exclusive-asset models use owned dark stores and employee pickers; shared-asset models rely on gig workers picking in third-party stores under indirect control. Using 2.5 million orders over 33 months from a platform, we test two levers that can substitute for ownership: temporal decoupling (shifting eligible orders to off-peak hours) and role specialization (separating picker and driver). Off-peak picking cuts picking time 1.77% and in-store time 3.66%, with stockout tradeoffs. A scheduling policy yields 3-4% platform-wide gains; a field study shows faster, less-delayed deliveries.

158-0172 The impact of store-based online fulfillment on grocery retail food waste: an empirical analysis

Pedro Amorim, Associate Professor, INESC TEC and Faculty of Engineering, UP, Portugal

Nicole DeHoratius, Professor, Columbia Business School, United States

Fredrik Eng-Larsson, Professor, Stockholm Business School, Sweden

Grocery retailers are increasingly fulfilling online orders from existing brick-and-mortar stores. Theory and practice debate whether this strategy reduces or exacerbates food waste at the stores. To analyze this, we apply difference-in-differences estimators to a 48-month panel of 27 stores, 11 of which moved to online fulfillment. We find that the relative waste (waste per unit sale) increased by 0.5 percentage points among the stores that implemented online fulfillment—about 15 percent relative to stores that do not serve online customers. This rise is mostly explained by higher inventory-to-sales levels driven by a 25 percent jump in demand variability.

158-0087 Bundling under Resource Pooling: Linking Demand and Operational Decisions

Shu-Jung Sunny Yang, Professor, School for Business and Society, United Kingdom

Yingying Huang, Associate Professor, School of Management, China

Bundling is widely used to stimulate demand while managing operational constraints, yet little is known about how bundle configurations and pricing interact with operational flexibility. We develop a data-driven framework that integrates consumer demand with firm supply decisions under budget, capacity, and integer constraints. Our framework links a utility-maximizing bundle-demand program that captures heterogeneous consumer preferences with a profit-maximizing bundle-supply program that incorporates resource pooling and asymmetric mismatch costs. Evidence from empirical applications show that smaller bundles are more price sensitive, while promotions increase demand but raise operational costs when pooled resources are constrained.

Wednesday, 09:00 AM - 10:30 AM

Contributed Session

18

Wednesday, 09:00 AM - 10:30 AM, Ragnar (R/ 3001)

Track: Manufacturing Operations

Contributed Session: Manufacturing Operations: Advanced Production Planning and Control

Chair(s): Mehmet Barut

158-0118 Integrating Smart Manufacturing Technologies into Production Planning and Control

Yober Arteaga Irene, Student, Alliance Manchester Business School, The University of Manchester, United Kingdom

Tahir Syed, Senior Lecturer, Alliance Manchester Business School, The University of Manchester, United Kingdom

Fahian Huq, Professor, Alliance Manchester Business School, The University of Manchester, United Kingdom

Smart manufacturing (SM) is envisioned as the way to ensure competitiveness in industrial manufacturing; however, its comprehensive integration into production planning and control (PPC) processes remains conceptually fragmented and managerially unclear. This study aims to reframe PPC from an SM perspective. Drawing on a systematic review of scholarly advances over the past decade, the research develops a unified framework that (i) links SM technologies to strategic, tactical, and operational PPC processes, and (ii) elucidates their differentiated performance implications. The study advances operations management theory and offers managers a structured logic for aligning SM investments with decision-making structures and performance objectives.

158-0019 Enhancing Integer Programming Models for Resource-Constrained Project Scheduling with Workload-Based Constraints

Nicklas Klein, Post Doc/Researcher, University of Bern, Switzerland

Norbert Trautmann, Professor, University of Bern, Switzerland

The nodes and edges of an activity-on-node project network represent the project activities and prescribed precedence relations between these activities, respectively. Executing an activity requires a specific amount of time and resources of different types. The total consumption of each resource type must not exceed its capacity. We address the problem of allocating the resources to the activities over time to minimize time-to-market. We propose enhancing existing integer programming formulations by incorporating redundant constraints that evaluate the workload to be processed before each activity begins. Our computational analysis confirms that these constraints considerably improve the relaxation-based lower bound.

158-0051 Evaluating Dynamic Capacity Controls for MTO Firms under Segment dependent Demand

Mehmet Barut, Professor, Wichita State University, United States

This study examines the performance of an order acceptance heuristics for make-to-order production firms operating under limited capacity and due-date- driven aggregate scheduling. We focus on customer segments exhibiting heterogeneous and nonstationary demand patterns. We employ a dynamic capacity-rationing model to selectively admit orders based on segment characteristics and system state, and benchmark its performance against a first-come, first-served (FCFS) policy and an optimal policy derived under full information assumptions. Results demonstrate the conditions under which capacity rationing meaningfully improves revenue and profitability, offering insights into when firms should employ such a dynamic heuristic.

21	Wednesday, 01:00 PM - 02:30 PM, Lindgren Room (A342)	Track: Sustainable Operations & Transforming Supply Chains
	Contributed Session: Sustainability: Consumer Behavior and Sustainable Retailing	
	Chair(s): Mina M. Iravani	

158-0208 Bridging the Sustainable Intention-Behavior Gap: The Role of Sustainable Messaging and the Marketing Mix

WEIQING YAN, Student, The Hong Kong Polytechnic University, Hong Kong, China
Di Fan, Assistant Professor, The Hong Kong Polytechnic University, China

Growing evidence highlights an intention-behavior gap in sustainable consumption. However, existing research primarily focuses on internal factors. Drawing on signaling theory, this study examines how information asymmetry between firms and consumers influences sustainable behavior. We investigate the effect of sustainable messages on the intention-behavior gap in sustainable fashion consumption, and how consumers' perceived importance of the sustainable marketing mix moderates this effect. A survey of 1,526 consumers in Hong Kong and Macau shows that sustainable messages help bridge the gap. Furthermore, this effect is stronger when consumers value sustainable products, promotion, and places important, while price shows no significant effect.

158-0237 Information Avoidance and Self-Greenwashing: The Role of Information in Fashion Choices

Anna-Rosa Kuerschner, Student, University of Innsbruck, Austria
Stefan Haeussler, Associate Professor, University of Innsbruck, Austria
Katharina Momsen, Post Doc/Researcher, University of Heidelberg, Germany
Nico Seyfried, Student, University of Innsbruck, Austria

The rapid growth of clothing consumption has made the fashion industry and its global supply chains a major contributor to environmental pollution. Despite rising awareness of eco-friendly lifestyles, a gap persists between pro-environmental attitudes and purchasing behavior. This study examines this attitude-behavior gap and the role of information processing in sustainable fashion consumption. We combine a survey on environmental attitudes with an incentivized online experiment in which participants choose between an eco-friendly and a conventional T-shirt. By varying product information about production attributes and prices, we test whether consumers avoid information to maintain a positive self-image or to resist temptation.

158-0238 The Impact of Bundle Promotions on Sustainability and Consumer Access

Mina M. Iravani, Post Doc/Researcher, Oxford University, United Kingdom
Ozge Sahin, Associate Professor, Johns Hopkins University, United States
Ying-Ju Chen, Professor, Hong Kong University of Science and Technology, Hong Kong, China

Sustainability has become a major global concern as environmental challenges such as climate change, deforestation, and ocean pollution intensify. Excessive consumption and the resulting waste contribute significantly to these problems. Marketing strategies that encourage higher consumption can exacerbate this issue, even though they may improve consumer access to products. Balancing sustainability with consumer access therefore remains a key challenge. We study bundle pricing and its implications for sustainability and equity. We propose a strategy that can reduce waste and increase consumer access, and we compare it with alternative strategies, examining their effects on waste, seller profit, and product accessibility.

158-0166 Traditional Sales versus Subscription Rentals in Retail: Business Model Choice, Assortment and Price Competition

Aditya Jain, Associate Professor, Baruch College, United States
Tolga Aydinliyim, Associate Professor, Baruch College, United States
Oben Ceryan, Senior Lecturer, Bayes Business School, United Kingdom
Mehmet Altug, Associate Professor, George Mason University, United States

We study competition between traditional sales and subscription rentals in retail, focusing on firms' business model choice, assortment design, and pricing when consumers value variety over multi-period consumption cycles. Using a game-theoretic model, we show how taste sensitivity, consumption duration, assortment costs, and rental transaction costs shape equilibrium outcomes. Renting is more attractive under favorable demand and cost conditions, especially for a monopolist. Under competition, however, a rental firm cannot drive out a seller. Instead, firms strategically differentiate through assortment breadth and pricing, helping explain the resilience of the traditional sales model.

Contributed Session

22	Wednesday, 01:00 PM - 02:30 PM, Cabinet Room (A336)	Track: Sustainable Operations & Transforming Supply Chains
	Contributed Session: Sustainability: Green Innovation and Decarbonization Transitions	
	Chair(s): Constantin Blome	

158-0115 Radical or Incremental: Effects of the Green Supply Chain Management Demonstration Program on Green Innovation

Li jiaxuan, Student, Dalian University of Technology, China

China's Green Supply Chain Management Demonstration Program aims to drive manufacturers to improve environmental governance across supply chains through green innovation. Yet whether such voluntary regulation promotes radical or incremental innovation remains unclear. Using panel data for A-share listed firms from 2010 to 2023, this study finds that the program increases incremental green innovation but suppresses radical green innovation. Mechanism analyses based on the resource-based view and institutional theory show that coordination costs, eased financing constraints, and coercive and normative pressures shift firms toward incremental innovation. These effects are stronger for non-SOEs, firms in competitive industries, and weaker institutional

158-0142 Inclusive Green Growth for Chinese E&E Manufacturers Under Environmental Regulation and ENGO Supervision

Panpan Zhu, Student, School of Economics and Management, Dalian University of Technology, China

Wednesday, 01:00 PM - 02:30 PM

Inclusive green growth (IGG) presents a promising pathway for E&E manufacturers facing unsustainable production and e-waste recycling hurdles. Yet its practical adoption remains limited. Meanwhile, environmental regulations (ERs) and ENGO supervision are seen as key to IGG. Thus, focusing on E&E manufacturers, this study uses a tripartite evolutionary game model to analyze how to adopt IGG. Findings show market-based ERs incentivize IGG, with ENGO supervision acting as a substitute. Higher environmental taxes accelerate IGG, while emission trading and subsidies do not. These conclusions provide valuable insights for E&E manufacturers to practice IGG.

158-0269 Power in Complex Supply Chain Transformation for Decarbonization: A Systemic View

Mariana Rosenstock, Student, FGV - EAESP, Brazil

Supply chain studies traditionally focuses on 'lead-firms', when analyzing relationships, and usually in dyadic or triadic analysis. However, in complex supply chain transformation as we see in hard-to-abate industries, a systemic power can create barriers. Overcoming this barrier demand actions among actors inside and outside the supply chain. Leading to the question: How do power dynamics occurs among supply chain actors and broader stakeholders within decarbonization projects? To answer this question, this thesis research underway intends to combine RDT and Institutional view of power while analysing steel industry cases and its supply chain passing by complex transformation towards decarbonization.

158-0273 Kereta Api Indonesia's Net Zero Journey: A Critical Analysis of Climate Politics

Wanodyaning Aqila Ma'rifah Salsabila, Student, University of Edinburgh, United Kingdom

This study analyses the net-zero strategy of Indonesia's state-owned railway operator, KAI. Focusing on the transition from diesel to electric trains and the increased use of biodiesel, the paper critically examines the operational, political, and social implications of these technological shifts. While the initiative aligns with national decarbonization targets, findings reveal significant challenges regarding fuel security, social justice, and the practicalities of grid reliance. By applying political science concepts to infrastructure management, this research provides a nuanced evaluation of how state-owned enterprises navigate technological transitions within complex regulatory frameworks to achieve sustainable operational goals and long-term infrastructure resilience.

Contributed Session

24	Wednesday, 01:00 PM - 02:30 PM, Yinka Shonibare Room (A536)	Track: Healthcare Operations Management
	Contributed Session: Healthcare: Workforce Management and Clinical Operations	
	Chair(s): Dan Adelman	

158-0180 The influence of surgery team dynamics on surgery overtime

Aurelius Aaron, Assistant Professor, The Hong Kong Polytechnic University, Hong Kong, China

Mari Ito, Associate Professor, Kobe University, Japan

Tokito Koga, Anesthesiologist, Hyogo Prefectural Nishinomiya Hospital, Japan

We examine how team dynamics and surgeon workload impact surgical overtime, a key factor influencing operating room (OR) costs and schedule reliability. Analyzing data from over 12,000 procedures at a Japanese hospital, we explore how deviations from planned team composition and surgeon workload affect surgery overtime. Our results show a hierarchy of roles: changes in anesthesiologists or OR nurses consistently increase the surgery overtime, while surgeon changes merely affect longer procedures. Later start times and prior-day caseloads further exacerbate the overtime, whereas heavier planned daily surgical hours help reduce it, indicating a surgeon-driven 'pacing' effect.

158-0024 Nurse Scheduling Reflecting Efficiency, Fairness, and Quality of Service

Saeed Aramesh, Student, Rmit University, Australia

Zahra HosseiniFard, Senior Lecturer, University of Melbourne, Australia

Babak Abbasi, Professor, Rmit University, Australia

This paper examines the scheduling challenges of surgical nurses, considering fairness and quality of service. A novel optimization model is developed to improve systematic justice in nurse scheduling by considering fairness, preferences of nurses, and staff availability. Moreover, it integrates robust stochastic methods for quantifying and mitigating the negative effects of fatigue on nurses on clinical performance, thereby safeguarding both nursing satisfaction and the quality of patient care. We evaluated the effectiveness of the presented method by collecting data from a hospital case study and the findings show significant improvements in fairness, workload balance, and schedule resilience under uncertainty.

158-0334 Understanding Multidimensional Health Behavior Choices among Nurses Using Latent Variable Joint Analysis Framework

Mengze Zhang, Student, Shandong University, China

Xuemei Fu, Associate Professor, Shandong University, China

Jianghua Zhang, Professor, Shandong University, China

Health behaviors often involve interdependent and multidimensional choices rather than isolated decisions. This study develops a joint modeling framework to examine nurses' health behavior choices under work-related stress, including exercise, diet, smoking, drinking, and rest. A generalized heterogeneous data model (GHDM) with latent constructs is employed to capture mixed outcome types and underlying psychological factors. The model reveals behavioral interactions and joint decision patterns under high-pressure contexts, and identifies key determinants of these choices. The findings provide structured behavioral insights for targeted health interventions and offer implications for hospital management and workforce sustainability.

158-0333 The Appointment Access Problem

Dan Adelman, Professor, Booth School of Business, United States

Academic medical centers around the U.S. face a paradoxical operational problem: there is often idle clinic time, but yet patients can't get timely appointments. We will share the latest work of researchers from the Healthcare Analytics Laboratory at the University of Chicago Booth School of Business on the appointment access problem. Working closely with University of Chicago Medicine, the team has identified key drivers of this problem and has developed a collection of novel methodological approaches to addressing them.

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Wednesday, 01:00 PM - 02:30 PM, Rana Begum Room (A538)

Track: Management of Technology

Contributed Session: Technology: Digital Transformation and Organizational Capabilities

Chair(s): Jorge Muniz Jr

158-0079 The Impact of Digitalization on Firm Growth: The Moderating Role of Family Involvement in Management

Yunshi Huang, Student, Universitat Autònoma de Barcelona, Spain

Joan-Lluís Capelleras, Associate Professor, Universitat Autònoma de Barcelona, Spain

Despite its recognized potential, the impact of digitalization on firm performance remains contested, with previous studies reporting inconsistent results. This study examines its effects on firm growth and the moderating role of family involvement in management using a long-term panel of Spanish manufacturing firms and fixed-effects regression models. Based on a composite digitalization index, we find a significant negative association with both sales and employment growth, challenging expectations of positive returns. Furthermore, family involvement in management mitigates this negative effect for sales growth. These findings highlight the contingent value of digitalization and clarify when family management shapes this relationship.

158-0242 Digitalization, Knowledge Creation, and Firm Performance

Antra ., Assistant Professor, Masters' Union School of Business, India

Veethica Smriti, Assistant Professor, Indian Institute of Management Lucknow, India

The increasing digitalization in firms has transformed how they create, manage, and leverage knowledge. As part of this transformation, Artificial Intelligence (AI) is increasingly integrated into business processes to enhance decision-making and firm performance. Firms deploy predictive analytics, generative AI, and machine learning to process large volumes of data and generate actionable insights. While AI's technological potential is widely recognized, its strategic role in enabling knowledge creation and improving firm performance remains underexplored. This study examines how AI capabilities support knowledge creation and contribute to firm performance, offering insights into how digitalization-driven AI capabilities shape firm outcomes.

158-0178 Organizational Aspects of Digital Transformation in the Automotive Industry

Agatha Leite, Student, UNESP, Brazil

Vagner Ribeiro, Professor, Universidade Paulista, Brazil

Jorge Muniz Jr, Professor, Sao Paulo State University (UNESP-FEG), Brazil

This study evaluates organizational factors that influence digital transformation within the Modular Consortium and how these elements guide the introduction of new technologies. An exploratory pilot study was conducted in the automotive companies from Modular Consortium, including all production management leadership, examining legal resources, legal threats, and cultural factors linked to organizational readiness for digital changes. Findings highlight that legal and cultural aspects are essential for organizational sustainability and successful technological adoption. The study contributes by demonstrating legal resources and risk management as strategic capabilities and by linking them to cultural elements that shape favorability towards transformation.

158-0168 Upskilling and reskilling in Swedish Manufacturing: Industry 4.0 technology literacy and Industry 5.0 Competences

Jorge Muniz Jr, Professor, Sao Paulo State University (UNESP-FEG), Brazil

Vagner Ribeiro, Professor, Universidade Paulista, Brazil

Mikael Ericsson, Senior Lecturer, University West, Sweden

kristina eriksson, Senior Lecturer, University West, Sweden

As Industry 4.0 (I4.0) transform manufacturing, the human-centric perspective of Industry 5.0 (I5.0), including up-skilling and re-skilling, becomes critical. This paper discusses a) I4.0 technologies demanded by Swedish industrial employees, and b) how engagement with I4.0 technologies influence competence development. Empirical data is collected through a longitudinal competence initiative framed with Swedish industry-university partnerships. Findings indicate that I4.0 technology literacy develops competences across four dimensions: technical, methodological, social, and personal. These results contribute to smart technology management bringing forth up-skilling and re-skilling initiatives in engineering education to inform I4.0 literacy and support the human-centric perspective of I5.0.

Contributed Session

26

Wednesday, 01:00 PM - 02:30 PM, Room A720

Track: Supply Chain Management

Contributed Session: SCM: Circular Economy and Sustainable Supply Chains

Chair(s): Yasanur Kayikci

158-0171 Enhancing the circularity of Electric Vehicle battery recycling

Xiaosheng Zheng, Student, Lancaster University, United Kingdom

Dong Li, Professor, Lancaster University, United Kingdom

lingxuan liu, Senior Lecturer, Lancaster university, United Kingdom

Drawing on field research in China's Electric Vehicle (EV) battery recycling market, this study reframes recycling as a multi-path circular system shaped by interdependent actors, flows, and decision rules. Using interviews, observations, site visits, and secondary materials, we show that barriers and enabling conditions interact to produce three persistent system tensions and structural lock-in. We theorise three system resolutions, each requiring bundled rather than one-to-one interventions. The study contributes to circular economy theory by explaining why underperformance persists in hybrid systems and how informal actors and symbolic compliance reshape flows, value capture, and governance.

158-0031 Sustainability Performance in Agribusiness Supply Chains: Innovation Dynamics and Institutional Conditions in Europe

Xiongfeng Pan, Professor, Dalian University of Technology, China

Li Jiang, Student, Dalian University of Technology, China

Wednesday, 01:00 PM - 02:30 PM

Sachin Mangla, Professor, O P Jindal Global University, India
Nagesh Murthy, Professor, University of Oregon, United States
Malin Song, Professor, Anhui University of Finance and Economics, China

Sustainability performance in agribusiness supply chains depends on how innovation interacts with inputs, desirable outputs, and environmental impacts. Using a triple bottom line-based assessment framework across European countries, this study evaluates heterogeneous innovation effects and highlights how institutional conditions shape sustainability outcomes in agribusiness supply chain systems.

158-0036 Inverted U-Shaped Relationship Between Supply Chain Concentration and Carbon Performance

Hua Shang, Associate Professor, School of Economics and Management, China
Yanyan Guo, Student, School of Economics and Management, China
Yunmeng Zeng, Student, School of Economics and Management, China
Li Jiang, Student, School of Economics and Management, China

The digital transformation of supply chains is reshaping industry dynamics, highlighting the need to examine its environmental implications. This study explores the inverted U-shaped relationship between supply chain concentration and corporate carbon performance in China's manufacturing sector from 2012 to 2022. The findings indicate that carbon performance is optimized when supply chain concentration remains below 50%. Risk-taking behavior mediates this relationship, while the bullwhip effect and long-term bank loans serve as moderating factors. Heterogeneity analysis shows that the effects are more pronounced in state-owned, resource-processing and eastern-located enterprises, providing critical insights for sustainable supply chain management in the digital era.

158-0089 Smart Sustainable Circular Supply Chains for Resilience

Yasanur Kayikci, Associate Professor, Sheffield Hallam University, United Kingdom
Cisem Lafci, Student, Yasar University, Turkey
Yalcin Berberoglu, Student, Yasar University, Turkey

This study develops and empirically validates a practical decision support framework to help firms build resilient and disruption-ready supply chains by integrating smart technologies, sustainability practices, and circular economy principles. Using an integrated fuzzy Quality Function Deployment and fuzzy Best- Worst Method approach, the framework enables managers to evaluate and prioritize organizational, technological, and collaborative capabilities under uncertainty. The framework is tested through a real-world industrial case, demonstrating its applicability and managerial relevance. Results highlight value network collaboration, digital infrastructure, intelligent systems, and workforce capabilities as critical investment priorities for strengthening preparedness and accelerating sustainable industrial transformation.

Contributed Session

27	Wednesday, 01:00 PM - 02:30 PM, Schumpeter Room (A133)	Track: Service Operations Management
	Contributed Session: Service Operations Management: Platform Economics, Pricing, and Market Behavior	
	Chair(s): Sumit Kunnumkal	

158-0190 Pricing Optimisation in Subscription-Based Businesses under Subscriber Base Dynamics

Bowen Xue, Student, The University of Manchester, United Kingdom
Xiao-jun Zeng, Professor, The University of Manchester, United Kingdom

Despite the growing popularity of subscription-based businesses, revenue management and pricing decisions in such settings are largely under-investigated. This paper proposes a pricing optimisation framework for profit-oriented subscription businesses, centred on dynamic subscription models that capture how subscription and usage fees influence subscriber number evolution over a multi-period pricing horizon. The analytical results show that the optimal subscription fee decreases as the pricing horizon lengthens, while the optimal unit usage fee remains fixed. The framework also identifies when flat-rate pricing or usage-based pricing is more profitable, depending on customer price sensitivity, horizon length, and subscription cost.

158-0042 Network revenue management with capacity pooling

Asrar Ahmed, Student, Indian School of Business, India
Sumit Kunnumkal, Professor, Indian School of Business, India
Milind Sohoni, Professor, The State University of New York at Buffalo, United States

Motivated by the practice of the Indian Railways, we consider a novel variant of the booking limit policy for network revenue management, where in addition to the product-specific booking limits, the service provider keeps aside some capacity that is common to all the products. We propose solution methods to obtain the product-specific booking limits as well as the common shared capacity.

158-0037 How Project Description Design Affects Bidding Behavior in Online Labor Markets

Abdulaziz Alshalfan, Assistant Professor, Kuwait University, Kuwait
Maryam Mahdikhani, Assistant Professor, College of Charleston, United States

This study examines how project-level textual and contextual characteristics influence bidding behavior in online labor markets. Using over 47,000 project listings, we apply natural language processing and machine learning to extract features from project descriptions and analyze their effects using multinomial logistic regression and OLS models. The findings show that longer and less readable descriptions, positive sentiment, and fixed-price contracts attract more bids, while technical specificity reduces volume but may improve matching quality. Interaction effects highlight complementarities between sentiment, readability, description length, and budget.

158-0005 Role of Contextual Information in Customer Reviews: A Field Experiment on a Mental Health Platform

Guang Cheng, Student, National University of Singapore, Singapore
Sidika Candogan, Assistant Professor, NUS Business School, Singapore
Joel Goh, Professor, NUS Business School, Singapore
Bilal Gokpinar, Professor, University College London, United Kingdom

Wednesday, 01:00 PM - 02:30 PM

Online mental health platforms can increase accessibility of mental health care, yet customers may find it difficult to choose therapists because therapists list multiple overlapping specializations. Motivated by this challenge and diverse practices about review sharing, we conducted a randomized field experiment with Singapore's largest online mental health platform to investigate whether revealing contextual information about review writers can improve the platform's ability to attract and retain customers. The intervention increased customer conversion by 17.6% and sessions attended by 36.2%, suggesting that contextual information makes reviews more informative and fosters successful matches and longer-term customer relationships.

Contributed Session

28	Wednesday, 01:00 PM - 02:30 PM, Ragnar (R/ 3001)	Track: Manufacturing Operations
	Contributed Session: Manufacturing Operations: Stochastic Approaches in Manufacturing Operations	
	Chair(s): Ronald McGarvey	

158-0182 Minimizing Total System Cost for a Priority Queueing Policy with Second Optional Service

Ronald McGarvey, Professor, IESEG School of Management, France

Emmanuelle Wallach, Engineer, , France

Yuwei Kang, Student, Beijing Institute of Technology, China

Consider an M/G/1 queueing system with second optional service and two classes of parts. The objective is to determine the scheduling policy that obtains the minimum total cost, comprised of an inventory cost per part in the system per time unit, and a preemption cost per part preempted during service. A new scheduling policy, Preempt Before Second Service, is presented and steady-state results are derived for the expected time in system for each class of parts and for the expected number of preemptions per time unit. Computational analyses are presented for a number of test cases.

158-0192 Joint Spare Parts Replenishment with Heterogeneous Failure Patterns: A Semi-Markov Decision Framework

Keyvan Fardi, Student, RENNES SCHOOL OF BUSINESS, France

Sohrab Faramarzi Oghani, Assistant Professor, Rennes School of Business, France

Reza Zanjirani Farahani, Professor, Paris School of Business, France

Ruben Ruiz Garcia, Professor, Universitat Politècnica de València, Spain

Industries such as offshore energy, aviation maintenance, and semiconductor manufacturing incur major losses when critical spare parts are unavailable. Mechanical and electrical components fail differently, yet firms typically replenish them independently, overlooking coordination benefits. We study a continuous-review spare-parts system with two components: one with memoryless failures and another without this property. Demand is generated endogenously by the components' failure processes. For each component we optimize an (s,S) policy minimizing long-run holding, shortage, replacement, and ordering costs. Using a semi-Markov approach, we analyze the system and develop a synchronization heuristic to coordinate replenishment and identify when coordination provides cost savings.

158-0256 Evaluating Circular Production Strategies in Hybrid Additive Manufacturing

Tugba Danaci, Post Doc/Researcher, KTH Royal Institute of Technology, Sweden

Timmo Achsel, Student, KTH Royal Institute of Technology, Sweden

Sasan Dadbakhsh, Associate Professor, KTH Royal Institute of Technology, Sweden

Amir Rashid, Professor, KTH Royal Institute of Technology, Sweden

Additive Manufacturing (AM) offers significant potential for enabling more sustainable and circular production systems due to its diverse technologies and material capabilities. However, identifying suitable production strategies across different AM technologies, materials, and industrial contexts remains a complex challenge. This ongoing research, within the DIAMETER project, investigates these issues in hybrid manufacturing environments where AM and machining are integrated. The study explores how design choices, process planning, and end-of-use options can be systematically evaluated. Using industrial use cases, alternative production strategies are compared in terms of circularity, sustainability, and economic performance, leading to development of initial conceptual decision-support framework.

Contributed Session

31	Wednesday, 02:50 PM - 04:20 PM, Lindgren Room (A342)	Track: Sustainable Operations & Transforming Supply Chains
	Contributed Session: Sustainability: Due Diligence & Resilience	
	Chair(s): Felix Papier	

158-0210 When Does Due Diligence Regulation Work? Transparency and Bargaining Power in Supply Chains

Sara Rezaee Vessal, Associate Professor, ESSEC Business School, France
 Ali Shantia, Associate Professor, Hec Paris, France
 Sam Aflaki, Associate Professor, Hec Paris, France

This study examines how the effectiveness of supply chain sustainability policies is shaped by asymmetric bargaining power and transparency among supply chain partners. Using a game-theoretic model of a two-tier supply chain, we analyze firms' sustainability compliance decisions under regulatory policies that impose sustainability standards and non-compliance penalties. The asymmetric bargaining power between buyers and suppliers affects the level of compliance in supply chains; a balance between sustainability standards and non-compliance penalties is crucial for policy effectiveness. Hence, the optimal choice of sustainability standards and penalties should be guided by power dynamics and transparency level in the supply chain.

158-0240 Cultural Orientation and Adaptive Resilience in Agricultural Supply Chains

Peter Adjei-Bamfo, Lecturer, Charles Sturt University, Australia
 Richard Asante, Student, Atlantic Technological University, Ireland
 Martin Agyemang, Lecturer, Kingston University London, Nigeria
 Joshua Aboah, Scientist, World Fish, Kenya

The collaboration between manufacturing firms and farmers in many agricultural supply chains in developing countries remains notably fragile, often characterised by weak coordination, limited information sharing, and misaligned incentives. Understanding how upstream agriculture manufacturers can strengthen resilience is therefore essential, not only in relation to the primary elements of resilience but also in terms of how secondary elements influence resilience strategies. Our proposed study adopts a case study research design focused on the cashew agriculture sector. The research seeks to examine how cultural orientation shapes and supports adaptive resilience strategies within agricultural supply chain networks.

158-0314 Incentivizing Supplier Compliance Under Buyer Liability in Multi-Tier Supply Chains

Pantea Saremi, Student, Ivey Business School, Western University, Canada
 Gal Raz, Associate Professor, Ivey Business School, Western University, Canada
 Hubert Pun, Professor, University of Western Ontario, Canada

Establishing and maintaining socially responsible practices has long been a challenging undertaking, particularly in the context of global operations. We examine compliance incentives in a three-tier supply chain with a manufacturer, a tier-1 supplier, and an upstream subcontractor. The manufacturer bears fines for detected upstream social responsibility violations, but the supplier chooses the upstream production approach. We develop an analytical model of how the manufacturer can influence that choice through cost-sharing for compliance effort. The model jointly captures cost-sharing, the supplier's choice between a risky or safer subcontractor, and the role of market

158-0124 To Regulate Or Not to Regulate? Addressing Free-Riding in Supply Chain Due Diligence

Sara Rezaee Vessal, Associate Professor, ESSEC Business School, France
 Ali Shantia, Associate Professor, Hec Paris, France
 Felix Papier, Professor, ESSEC Business School, France

While supply chain due diligence (SCDD) regulation is expanding, its societal effectiveness and firm impact remain debated. While SCDD activities generate business value (e.g., productivity, resilience) alongside societal benefits (e.g., improved labor conditions), overlap in supply networks creates spillover effects. Using game theory, we model two firms sourcing from overlapping supply networks and a policymaker setting SCDD regulation. Our analysis reveals that well-calibrated SCDD regulation can transform compliance from a burden into a value driver, aligning firm profitability with social welfare. We identify conditions under which such 'business-friendly' regulation emerges, challenging the view that mandatory SCDD inherently reduces firm profitability.

Contributed Session

32	Wednesday, 02:50 PM - 04:20 PM, Cabinet Room (A336)	Track: Sustainable Operations & Transforming Supply Chains
	Contributed Session: Sustainability: Life Cycle Assessment	
	Chair(s): Matin Mohaghegh	

158-0163 Integrating endogenous cannibalization modeling into the Life Cycle Assessment of remanufacturing strategies

Antonio Cavallin Toscani, Assistant Professor, University of Padova, Italy
 Vishal Agrawal, Professor, Georgetown University, United States
 Atalay Atasul, Professor, INSEAD, France
 Luk Van Wassenhove, Emeritus Professor, INSEAD, France

Remanufacturing is often championed for its potential to reduce environmental impacts, yet its benefits remain debated. Life Cycle Assessment (LCA) studies of remanufacturing traditionally assume full cannibalization of new sales or fix cannibalization rates exogenously. Conversely, endogenous models from Operations Management (OM) often neglect key LCA elements. We illustrate how OM-type modeling and LCA can be better combined to estimate the environmental benefits of remanufacturing, both conceptually and through case studies in the electronics industry. Our results show that, for products with use-dominated footprints, companies must strategically select their target markets, as geography significantly affects remanufacturing's environmental and economic viability.

158-0164 Assessing the impact of sustainability strategies: key Life Cycle Assessment developments for Sustainable Operations scholars

Wednesday, 02:50 PM - 04:20 PM

Antonio Cavallin Toscani, Assistant Professor, University of Padova, Italy

Vishal Agrawal, Professor, Georgetown University, United States

Atalay Atasü, Professor, INSEAD, France

Luk Van Wassenhove, Emeritus Professor, INSEAD, France

Sustainable Operations (SO) studies commonly measure the total environmental impact of business and policy decisions by integrating a Life Cycle Assessment (LCA) perspective. This traditionally involves multiplying endogenous production quantities by fixed per-unit impact parameters, overcoming LCA's simplified assumptions regarding firm and consumer behavior. However, this approach ignores how decisions alter background production systems or trigger spillovers into other supply chains. We illustrate key LCA developments - prominently, consequential modeling - that address these complexities. Through practical examples, we demonstrate how SO scholars can both benefit from and contribute to these developments, creating more comprehensive evaluations of sustainable business strategies.

158-0301 Life Cycle Assessment of Automotive Cable Harness for Environmental Impact Reduction to Support Sustainable Operations

Teja Subhash Karumudi, Student, KTH Royal Institute of Technology, Sweden

This study conducts a cradle to gate life cycle assessment of an automotive driver door cable harness from materials extraction to delivery to OEM to quantify environmental impacts and identify hotspots. The analysis interprets extraction, component manufacturing, harness assembly, and transportations throughout the supplychain using ecoinvent datasets within SimaPro under a cut off approach with ReCiPe Midpoint impact assessment. Results indicate that material processing and manufacturing stages contribute significantly to overall impacts. Scenario analysis evaluates material and process improvements to reduce environmental burden. The findings provide data driven insights to support sustainable operations and decision making in automotive component development.

158-0222 Defending against uncertainty: The behavioral basis of bounded circularity in supply chains

Matin Mohaghegh, Assistant Professor, Vienna University of Economics and Business, Austria

Brian Vejrum Wæhrens, Professor, 2, Denmark

Astrid Heidemann Lassen, Associate Professor, 2, Denmark

CCircular economy is widely promoted as a pathway toward sustainable supply chains, yet many firms struggle to move beyond fragmented implementation. This study examines why circular supply chain transformation remains bounded despite strong ambition. Drawing on threat- rigidity theory, we argue that uncertainty surrounding CE initiatives may be perceived as threatening, triggering defensive responses. Based on a multiple-case study of nine plastic-intensive firms and 23 interviews, we show how uncertainty profiles (uncertainty type, stakes, and perceived control) shape defensive decision configurations such as risk transfer, avoidance, selective engagement, and wait-and-see. These responses limit exposure to uncertain commitments and sustain bounded circularity.

Contributed Session

33	Wednesday, 02:50 PM - 04:20 PM, Marie-Louise Ekman Room (A328)	Track: Disruptive Technologies and Operations Management
	Contributed Session: Disruptive Technologies & Operations Management: Artificial Intelligence	
	Chair(s): Enzo Frazzon	

158-0303 Agentic AI for Near Real-Time Phantom Inventory Detection in Retail Supply Chains

Shiva kumar Ramavath, Data Scientist, Albertsons Companies, United States

Senthilkumar Thiyagarajan, Senior Supply Chain Analyst, Medline Industries, LP, United States

Nachiappan Subramanian, Professor, University of Sussex, United Kingdom

This study addresses phantom inventory in retail supply chains. System-recorded stock does not match physical availability, leading to lost sales and inefficiencies. It proposes an Agentic AI framework integrating large language models, retrieval-augmented generation, and autonomous agents to reconcile inventory data across point-of-sale systems, ERP, and Internet of Things sensors. The framework enables continuous anomaly detection, prioritization, and human-in-the-loop decision-making. Findings show that agentic AI can identify discrepancies and trigger corrective actions such as cycle counts and replenishment updates, improving inventory accuracy and responsiveness. The study contributes a novel, proactive approach to real-time inventory reconciliation.

158-0233 Personalizing Robotaxi Services: An LLM-Driven Framework for Adaptive Passenger Experience

Dan Wang, Student, Hong Kong Polytechnic University, Hong Kong, China

Gangyan Xu, Assistant Professor, The Hong Kong Polytechnic University, Hong Kong, China

Current Robotaxi services typically operate under standardized driving styles, providing a uniform experience regardless of diverse passenger expectations. This can limit service flexibility and market acceptance in complex urban environments. We propose a framework using Large Language Models to bridge individual passenger preferences with operational decision-making. By interpreting natural language requirements, the system dynamically adjusts constraints within a reinforcement learning controller. Experimental results show that this approach enables personalized service delivery while maintaining operational efficiency and safety. This work provides managerial insights into how generative AI can enhance service operations and trust in autonomous mobility.

158-0107 Digital Twins and AI-Driven Process Rewiring: Methodology and a Case Study from Pathology

Ramayya Krishnan, Professor, Carnegie Mellon University, United States

Rema Padman, Professor, Carnegie Mellon University, United States

Vidhi Kothari, Student, Carnegie Mellon University, United States

Dev Sandeep, Student, Carnegie Mellon University, United States

Surgical pathology laboratories are at an inflection point. Artificial intelligence tools capable of whole-slide image analysis, specimen triage, and diagnostic pre-screening are transitioning from research settings to clinical deployment. Yet the operational consequences of AI integration remain poorly understood. Our work couples discrete-event simulation with a formal AI task-decomposition framework, and introduces LLM-assisted invariant checking as a scalable validation mechanism. Counterfactual analysis of three representative AI intervention scenarios demonstrates measurable shifts in system throughput, bottleneck location, and turnaround time distributions.

158-0296 Managing Paradoxical Tensions in Lean-Digital Integration: Evidence from Manufacturing Operations

Fariha Qamar, Student, Atlantic Technological University, Ireland
Graham Heaslip, Professor, Atlantic Technological University, Ireland
Amir Azadnia, Senior Lecturer, Maynooth University, Ireland
Paul Humphreys, Professor, Ulster University, United Kingdom
George Onofrei, Senior Lecturer, Atlantic Technological University, Ireland

This study examines how manufacturing organizations manage paradoxical tensions during Lean- digital integration through a paradox theory lens. Based on qualitative study, we identify interrelated tensions spanning operational performance, organizational control, workforce capability development, and employee experience. They emerge as firms simultaneously pursue efficiency and flexibility, automation and human involvement, and short-and long-term performance. Rather than resolving these contradictions, organizations engage in ongoing balancing through gradual implementation, employee involvement, and continuous learning. Our findings show that paradoxes are embedded in daily operations and shape integration processes. This study contributes by explaining how organizations manage persistent contradictions in digital transformation.

158-0223 AI Without Borders? How National Institutions Shape Firms' Technological Trajectories

Matheus Leusin, Post Doc/Researcher, Universitat Bremen, Germany
Enzo Frazzon, Professor, Universidade Federal De Santa Catarina, Brazil
Christian Cordes, Professor, Universitat Bremen, Germany

We examine how geopolitical dynamics and national institutions shape firms' technological trajectories in Artificial Intelligence (AI). Drawing on absorptive capacity theory and case evidence, we explore how regulatory regimes and state coordination affects the innovative performance of AI firms. We extend this discussion empirically, analysing AI-related patents from over 30,000 multinational enterprises. Contrasting US and Chinese firms, we find stark divergences: US firms exhibit gains in knowledge relatedness and patenting output, whereas Chinese firms show modest improvements without corresponding growth, suggesting state-directed regimes fragment organizational learning and hinder knowledge codification with impacts on AI-driven operations management.

Contributed Session

34

Wednesday, 02:50 PM - 04:20 PM, Yinka Shonibare Room (A536) Track: Healthcare Operations Management

Contributed Session: Healthcare: AI and Decision Support

Chair(s): Hossein Piri

158-0016 Barriers to AI Adoption by Radiologists

Taranga Datta, Student, Bournemouth University, United Kingdom
Soumyakanti Chakraborty, Professor, Indian Institute of Management Calcutta, India
Sumanta Basu, Professor, Indian Institute of Management Calcutta, India
Megha Sharma, Professor, Indian Institute of Management Calcutta, India
Narain Gupta, Professor, Birmingham City University, United Kingdom

This study examines barriers to artificial intelligence (AI) adoption in radiology within the UK's National Health Service (NHS) using Interpretive Structural Modelling (ISM) and MICMAC analysis. Eight key barriers were identified through a systematic literature review and validated by expert radiologists. ISM was applied to establish hierarchical relationships among these barriers, revealing foundational drivers that influence dependent factors. MICMAC analysis classified the barriers according to their driving and dependence power. The proposed structural framework offers practical guidance for policymakers and healthcare leaders to support effective and sustainable AI implementation in radiology.

158-0346 AI-Augmented 5S: A Scalable Framework for Multi-Site Healthcare Operations Excellence

Fatima Irshaidat, Assistant Professor, Montclair State University, United States
Awni Qasaimeh, Engineering Manager and PhD, Zebra Technologies, United States
Chelsey Hill, Assistant Professor, Montclair State University, United States
Marina Johnson, Associate Professor, Montclair State University, United States

A standardized digital 5S lean housekeeping framework is designed and implemented in a global multi-site safety testing organization. This web-based platform managed by certified lean practitioners, achieved 98% global audit completion rates and improved compliance scores from 40% to 100% over four years. Drawing on this empirical foundation, this paper proposes extending the framework to complex multi-facility organizations such as healthcare that consists of diverse spaces, where adherence to regulatory standards is mandatory. A large language model engine is proposed to generate root-cause narratives, detect cross-departmental anomalies, and deliver prioritized corrective intelligence, advancing data-driven continuous improvement in healthcare operations.

158-0349 When Less Is More: Optimizing Prescription Alerts Under Fatigue

Hossein Piri, Assistant Professor, University of Calgary, Canada
Michael Lingzhi Li, Assistant Professor, Harvard Business School, United States

Computerized Provider Order Entry (CPOE) systems help pharmacists prevent medication errors by displaying alerts for potential drug interactions, but high alert volumes can cause fatigue and reduce responsiveness. We study how a CPOE system should decide which alerts to display and how strongly to present them to maximize patient safety while accounting for fatigue. We develop an optimization model in which alerts reduce harm but increase fatigue and lower responsiveness to future alerts. Using a continuous approximation and four years of data, we show our policies can cut alert volume by 50% while increasing avoided risk by over 40%.

158-0061 Sustaining the Lifeline: Joint Management of Donor Engagement and Perishable Blood Inventory

Sohaib Dastgoshade, Student, Rmit University, Australia
Babak Abbasi, Professor, Rmit University, Australia
Ahmad Dastgoshade, Associate Professor, Rmit University, Australia

Wednesday, 02:50 PM - 04:20 PM

Blood services must satisfy stochastic demand for multiple blood products under perishable inventory and endogenous donor supply. We develop a finite-horizon donor engagement- inventory control model that jointly optimizes collection, allocation, and issuing with targeted retention and recruitment. The model tracks free-pool engagement and inventory states, and triggers retention when actionable engagement falls below a critical threshold. In simulation with replications and confidence intervals, the proposed DEP-MILP policy improves minimum cover, reduces shortages and tail-risk, and limits near-expiry inventory versus benchmarks with exogenous engagement. Resulting threshold rules translate engagement metrics into risk-responsive intervention intensity, stabilizing service levels with fewer marketing actions.

158-0137 Stratify, Don't Personalize: Balancing Implementation Complexity and Outcome Disparity in Medical Care

Niloofer Zamani Foroushani, Student, Imperial College London, United Kingdom

Narges Mohammadi, Assistant Professor, Bayes Business School, United Kingdom

Reza Skandari, Assistant Professor, Imperial College London, United Kingdom

Clinical guidelines often provide uniform recommendations that ignore patient heterogeneity and may create disparities in health outcomes. Fully personalized care could address these inequities but is difficult and costly to implement. We develop a decision-aware stratification framework that partitions patients into a number of interpretable subgroups, each assigned a tailored surveillance policy. Partitions are constrained to decision trees over observable covariates, aligning with clinical guideline structures. The model integrates mixed-integer optimization with a constrained multi-model POMDP to design equitable policies. In a head and neck cancer case study, five strata reduce treatment delay disparities by 60- 75% relative to uniform guidelines.

Contributed Session

35

Wednesday, 02:50 PM - 04:20 PM, Rana Begum Room (A538)

Track: Management of Technology

Contributed Session: Technology: Emerging Digital Systems

Chair(s): Manoj Malhotra

158-0022 Understanding Blockchain Adoption in Multi-Tier Supply Chains Through the Lens of Institutional Entrepreneurship

Sang Hoo Bae, Associate Professor, Clark University, United States

Sara Saberi, Assistant Professor, Worcester Polytechnic Institute, United States

Mahtab Kouhizadeh, Assistant Professor, University of Rhode Island, United States

Joseph Sarkis, Professor, Worcester Polytechnic Institute, United States

Digital transformation, driven by institutional entrepreneurs, reshapes supply chains through technologies like blockchain. Integrating institutional entrepreneurship theory, this study examines who should champion adoption, the manufacturer (upstream) or retailer (downstream), within a three-tier supply chain. By modeling four governance scenarios via Stackelberg game, Full Cooperation (FC), Partial Cooperation (PC), Retailer Control (RC), and Manufacturer Control (MC), the research analyzes how cooperation levels affect risk-sharing and profitability. Results indicate that FC yields the highest investment. Crucially, RC outperforms MC and PC. Retailer-led adoption mitigates "opportunistic pricing" from manufacturers, streamlining investment and demand, ultimately maximizing total supply chain profit in non-cooperative environments.

158-0122 Shadow Coordination in Public Operations: The Agility-Traceability Trade-off

Mehmet Donmez, Assistant Professor, CUNEF University, Spain

This paper introduces shadow coordination to explain how managers use consumer messaging tools to manage operational interdependencies outside formal systems. Drawing on an in-depth qualitative case study of maintenance operations in a public theatre, we show how WhatsApp voice messages enable rapid triage, task prioritization, and cross-functional problem solving under bureaucratic constraints. Shadow coordination improves responsiveness and keeps work flowing when formal processes are slow or fragmented. At the same time, it reduces traceability, weakens process visibility, and limits organizational learning. We conceptualize these competing effects as an agility-traceability trade-off and extend POM research on coordination mechanisms.

158-0121 Information Design of the Monty Hall Problem

Zhenyu Hu, Associate Professor, National University of Singapore, Singapore

Shouqiang Wang, Associate Professor, University of Texas at Dallas, United States

Yangge xiao, Assistant Professor, university of melbourne, Australia

We consider the following variant of the Monty Hall Problem. There are n doors, behind each of which hides an a priori random reward, independently distributed according to a common prior. A clue box is attached to each door, which, if inspected, yields a clue about the rewards behind possibly all doors. The game host designs what clues to be put in each box and announces at the beginning of the game what each clue reveals about the rewards. We study the optimal designs of the clue boxes when the host faces different informational constraints to maximise her reward.

158-0156 Leveraging Operational Levers and Social Media Externalities in Mobile Game Design

Manoj Malhotra, Professor, Lehigh University, United States

Moonwon Chung, CEO, -, United States

Brad Kyungmin Lee, Assistant Professor, Salisbury University, United States

Sanghoon Cho, Assistant Professor, Texas Christian University, United States

We study how firms can internalize social media externalities through product design and operational levers in the mobile gaming industry. Using panel data on 142,000 app-day observations and 1,100 YouTube videos for top U.S. iOS games, we examine the effects of instructional and exploit content on user engagement and retention. Instructional videos increase engagement, whereas exploit videos reduce retention, particularly in multiplayer and socially integrated games. We identify user analytics, updates, social sharing, and multiplayer as key operational levers shaping these effects. Analytics and frequent updates mitigate harmful externalities, offering actionable implications for digital product design and platform strategy.

Contributed Session

36

Wednesday, 02:50 PM - 04:20 PM, Room A720

Track: Supply Chain Management

Contributed Session: **SCM: Information Sharing and Coordination Mechanisms**

Chair(s): Hongtao Zhang

158-0209 Demand Information Sharing in a Distribution Channel: The Role of Strategic Opacity

Qi Cheng, Assistant Professor, University of Science and Technology of China, China

Xiaoxiao Li, Post Doc/Researcher, City University of Hong Kong, Hong Kong, China

Yimin Yu, Professor, City University of Hong Kong, Hong Kong, China

This study investigates demand information sharing in a dyadic supply chain, where a retailer with private demand information strategically decides whether and how to share the information to a manufacturer. We consider a uniform three-point market potential distribution and analyze the retailer's optimal information sharing structure under wholesale and two-part tariff contracts. Our findings reveal that partial information can be optimal for the retailer, balancing the trade-off between avoiding exclusionary contracting and maintaining information rent. Partial sharing can yield a win-win outcome, aligning retailer and manufacturer interests, particularly when high and medium potentials dominate.

158-0261 Information Design for Supply Chains with Priority Suppliers

Ozan Candogan, Professor, University of Chicago, United States

Huseyin Gurkan, Assistant Professor, ESMT Berlin, Germany

Rufat Ismayilov, Student, ESMT GmbH, Germany

This paper studies how a retailer should design information disclosure when sourcing from two suppliers under a priority procurement rule. One supplier fulfills orders first while a backup supplier serves residual demand. We model the interaction using a Bayesian persuasion framework in which the retailer commits ex ante to an information disclosure policy and privately sends signals to suppliers who choose production quantities. We show that asymmetric disclosure is optimal: the retailer provides more informative signals to the lower-priority supplier while keeping the priority supplier relatively less informed. The result is robust to heterogeneous critical ratios and alternative procurement rules.

158-0123 Resilient Hydrogen Supply Chains under Renewable Disruptions: A Coopetition Game-Theoretic Model

Hamed Rajabzadeh, Student, Technical University Bergakademie Freiberg, Germany

Marcus Wiens, Professor, Technical University Bergakademie Freiberg, Germany

Hydrogen supply chains are essential for the energy transition but face increasing disruption risk due to renewable intermittency. This study develops a game-theoretic model to analyze resilience strategies in a hydrogen supply chain where a renewable producer may source hydrogen from a competing fossil-based producer through a logistics provider when disruptions occur. We compare decentralized and coordinated governance structures and examine their effects on pricing and sourcing decisions. The results show that disruption risk can reshape competitive dynamics and create incentives for coopetition. While coordination improves supply chain resilience and stability, decentralized structures allow greater flexibility in responding to disruptions.

158-0095 Information Sharing in the Online Marketplace When Vendor Central and Seller Central Coexist

Hongtao Zhang, Professor, Hong Kong University of Science and Technology, Hong Kong, China

Hu Huang, Post Doc/Researcher, The Hong Kong University of Science and Technology, Hong Kong, China

Tian Li, Professor, East China University of Science and Technology, China

When vendor central (reselling channel) and seller central (agency selling channel) coexist on an e-market platform, their interaction presents new opportunities for beneficial information sharing that would be absent if the two e-tailing channels operate separately. We address three critical questions. Should the platform share demand forecasts with agency sellers only, or also with vendors? Does the presence of agency selling alter the effect of double marginalization in the reselling channel such that it enables profitable data sharing with vendors? How do the number of sellers and vendors and the degree of product substitution affect the incentives for information sharing?

Contributed Session

37

Wednesday, 02:50 PM - 04:20 PM, Schumpeter Room (A133)

Track: Service Operations Management

Contributed Session: **Service Operations Management: Service Operations and Performance Management**

Chair(s): Rafael Teixeira

158-0234 Performance-based Contracts for Performance Outcomes? Longitudinal Evidence from Complex IT Dyads

Vidisha Nandi, Student, CBS, Denmark

Performance-based and outcome-based contracts (PBC-OBC) are theorized to drive innovation and superior outcomes in complex service relationships, yet longitudinal empirical evidence remains scarce. Through processual analysis of three buyer (Scandinavian)-first-tier IT supplier (Indian) dyads spanning 10+ years across software, telecommunications, and financial payments, PBC-OBC are found deployed predominantly in sunset rather than innovation-driven applications, challenging prevailing theory. A contracting continuum emerges that frames how contract types and governance map to changing risk-responsibilities across relationship lifecycle stages. Findings advance PBC-OBC theory at the intersection of PSM, IS and OM, along with managerial implications for contracting closer to future outcomes as sustainability.

158-0339 Service Line Analysis: Services Offered, Services Rendered, and the Impact on Hospital Performance

Anand Bhatia, Assistant Professor, IE BUSINESS SCHOOL, Spain

Jayashankar Swaminathan, Professor, University of North Carolina Chapel Hill, United States

Wednesday, 02:50 PM - 04:20 PM

This study examines how the alignment between services offered and services rendered across hospital service lines affects operational performance. Using detailed data, we distinguish between the portfolio of services hospitals make available and the care activities actually delivered within episodes. We show that misalignment between these dimensions is associated with variation in patient length of stay, resource utilization, and staffing patterns. Our analysis highlights substantial heterogeneity across service lines and episodes, suggesting that operational performance depends not only on service availability but also on how care delivery is organized in practice.

158-0153 Accuracy and transparency of in-store availability data in omnichannel retail

Fredrik Eng-Larsson, Professor, Stockholm Business School, Sweden
Olov Isaksson, Professor, Stockholm Business School, Sweden
Alireza Kabir Mamdouh, Post Doc/Researcher, Stockholm Business School, Sweden
Melika Khandan, Student, Stockholm Business School, Sweden

Many omnichannel retailers share in-store availability information online despite substantial inventory accuracy challenges. While prior research examines whether availability should be shared, it largely assumes accurate underlying data. We leverage a unique three-year dataset from an international sporting goods retailer that implemented a two-phase rollout – first improving inventory accuracy via RFID, then increasing transparency of in-store availability information. Using a difference-in-differences framework, we show that accuracy improvements enhance operational performance, improving on-shelf availability and in-store conversion rates. More crucially, they enable greater online transparency, shifting customers from online to brick-and-mortar stores and increasing total sales across the network.

158-0011 Service Customization, Scope, and Disruption Time in Multi-Facility B2B Services

Rafael Teixeira, Associate Professor, College of Charleston, United States
Aleda Roth, Retired, Clemson University, United States
Enrico Secchi, Assistant Professor, University College Dublin, Ireland

Technology-enabled services such as telecommunications are delivered continuously within business-to-business (B2B) buyers' facilities, making service performance dependent on buyer-side knowledge and organizational structure. Drawing on agency theory, this study examines how service customization and service scope affect service disruption time, and how service concentration across buyer facilities moderates these relationships. Using longitudinal panel data from 353 B2B buyers of digital services, the results show that customization has a positive but decreasing effect on disruption time, while service scope has a linear positive effect. Service concentration weakens the effect of service scope, highlighting the role of organizational design in service operations.

Contributed Session

38	Wednesday, 02:50 PM - 04:20 PM, Ragnar (R/ 3001)	Track: New Product Development, R&D, and Project Management
	Contributed Session: NPD: Organizational Dynamics and Decision Analytics	
	Chair(s): Guillaume Roels	

158-0023 From Paychecks to Well-Being: Unpacking Drivers of Employee Turnover at Scale

Morvarid Rahmani, Associate Professor, Georgia Institute of Technology, United States
Hyunwoo Park, Associate Professor, Seoul National University, South Korea
Abhishek Deshmane, Assistant Professor, Georgia Institute of Technology, United States

Employee turnover imposes substantial costs on organizations, particularly in knowledge-intensive sectors where human capital drives competitive advantage. his study examines how employee satisfaction with compensation and work-life balance influence turnover among knowledge workers.

158-0308 Distributionally Robust Optimization in Generalized Project Networks

Siyuan Chen, Student, The Hong Kong Polytechnic University, Hong Kong, China
Nicholas Hall, Professor, Ohio State University, United States
Miao Song, Professor, The Hong Kong Polytechnic University, Hong Kong, China

While project management has long represented a significant share of global economic activity, major changes in project characteristics have occurred in recent years. Modern projects typically support the development of new products and services, software, pharmaceuticals, or research activities. In these applications, more fundamental sources of uncertainty arise, including (a) full or partial rework, (b) the unexpected introduction of new tasks, (c) uncertainty about the existence of task precedence relationships, (d) probabilistic branching. We model all these uncertainties into a Generalized Project Network that is solved using distributionally robust optimization and dynamic programming in reasonable computation time.

158-0083 The handwritten effects: handwritten typeface on brand sincerity perceptions

Wenxin Guan, Student, Dalian University of Technology, China

During the launch of new products, how can enterprises convey the brand personality through visual design and achieve performance? Through experiments on Facebook and in the laboratory, we found that compared to machine-printed typefaces, handwritten typefaces can enhance consumers' perception of the brand's sincerity. This effect is driven by the perceived level of effort, as handwritten typefaces remind people of having invested more time and energy. Moreover, when the complexity of the advertisement design is high, the influence of font type on the perception of brand sincerity will weaken.

158-0322 Equal sharing in heterogeneous teams

Guillaume Roels, Professor, INSEAD, France
Vladimir Smirnov, Associate Professor, University of Sydney, Australia
Iliia Tsetlin, Professor, INSEAD, Singapore
Andrew Wait, Professor, University of Sydney, Australia

Why do many teams share output equally, despite differences in the abilities of their members? We show that, even with asymmetric agents, an even split is second-best optimal in two important cases, explaining explain the widespread use of equal sharing in teams with fewer members (two-partner joint ventures) and in separable partnership settings (law/medical partnerships).

Wednesday, 02:50 PM - 04:20 PM

Sessions for Thursday, June 25

Thursday, 09:00 AM - 10:30 AM

Contributed Session

41 Thursday, 09:00 AM - 10:30 AM, Lindgren Room (A342) Track: Sustainable Operations & Transforming Supply Chains
Contributed Session: Sustainability: ESG & Diversity
Chair(s): Jing Dai

158-0112 Green Policies, ESG Reporting, and Consumer Behaviour: A Triangular Analysis

Puneet Sharma, Post Doc/Researcher, XLRI- Xavier School of Management, India

Green taxes are widely used to mitigate environmental degradation and encourage sustainable production and consumption. However, their effectiveness depends not only on environmental outcomes but also on societal acceptance. Despite extensive research on environmental taxation and corporate sustainability, limited attention has been given to how green tax policies interact with corporate Environmental, Social, and Governance (ESG) practices to influence consumer trust and behaviour. This study examines how corporate ESG performance and ESG disclosure shape the relationship between fuel tax policies and consumer responses, including trust, willingness to pay, and purchase intention, thereby highlighting the social dimensions of climate policy.

158-0300 A Network DEA Framework for ESG Performance Evaluation of Indian SMEs

Sajeev George, Professor, S P Jain Inst. of Management & Research, India

Sapna Malya, Associate Professor, S P Jain Inst. of Management & Research, India

This study proposes a network Data Envelopment Analysis (DEA) framework to evaluate the ESG performance of Indian Small and Medium Enterprises (SMEs). The model captures the sequential relationship between operational efficiency, governance capability, and environmental and social outcomes. The framework provides a practical tool for benchmarking ESG performance and offers insights for policymakers and practitioners to design targeted strategies for enhancing sustainability in SMEs.

158-0049 Procurement's Role in Legitimizing Supplier Diversity, Equity & Inclusion Programs

Osama Meqdadi, Associate Professor, Audencia Business School, France

Supplier diversity, equity, and inclusion (SDEI) programs increasingly face backlash and challenges that threaten their continuity. These pressures create conflicting economic, political, and social rationalities, generating equivocality in SDEI related decision making. This paper asks: How does the procurement function sustain the legitimacy of SDEI programs amid conflicting economic, political and social rationalities? Drawing on a systematic literature review and legitimacy theory, the study identifies the mechanisms that reinforce and maintain SDEI program legitimacy. Initial findings indicate that SDEI legitimacy emerges through a multi level decision making process spanning the micro (procurement), meso (organizational), and macro (supply network) levels.

158-0097 ESG Uncertainty and Firm Carbon Emissions: A Motivation-Opportunity-Ability Perspective

Li Yin, Student, University of Nottingham Ningbo China, China

Keying Wu, Student, University of Nottingham Ningbo China, China

Dong Xu, Lecturer, Zhejiang Wanli University, China

Jing Dai, Professor, University of Nottingham Ningbo China, China

Amid growing climate pressures, existing studies emphasize compliance or value-maximizing responses of environment, social, and governance (ESG), yet the role of macro-level ESG uncertainty remains underexplored. Drawing upon ROT and Motivation- Opportunity- Ability framework, this study examines how ESG uncertainty influences carbon emission intensity and how this relationship can be altered by context-specific factors. Employing a panel dataset of 3,406 Chinese manufacturing firms between 2010 and 2023, we find a positive relationship between ESG uncertainty and carbon emission intensity. This detrimental effect of ESG uncertainty is significantly weakened by the presence of government subsidies (motivation), supplier concentration (opportunity), and digital innovation (ability).

Contributed Session

42 Thursday, 09:00 AM - 10:30 AM, Cabinet Room (A336) Track: Sustainable Operations & Transforming Supply Chains
Contributed Session: Sustainability: Carbon Disclosure & ESG
Chair(s): Lukasz Bednarski

158-0073 Internal Carbon Pricing and Operational Efficiency

Chitranshu Khandelwal, Assistant Professor, University of petroleum and energy studies, Dehradun, India

Urvashi Khandelwal, Student, Indian Institute of Management Udaipur, India

This paper examines whether internal carbon pricing (ICP) enhances firm-level productivity. While prior research focuses on the determinants and financial consequences of ICP, its operational implications remain largely unexplored. We test whether ICP adoption improves total factor productivity (TFP). Using panel data, we document that ICP adopters exhibit significantly higher TFP relative to non-adopters. Results remain robust to instrumental variable estimation, matching approaches, and selection corrections. Our findings indicate that carbon pricing mechanisms can generate efficiency gains alongside environmental benefits.

158-0074 Emission Reduction Target Disclosure and Operational Efficiency

Urvashi Khandelwal, Student, Indian Institute of Management Udaipur, India

Prateek Sharma, Associate Professor, Indian Institute of Management Udaipur, India

Thursday, 09:00 AM - 10:30 AM

This study examines the impact of Emission Reduction Target Disclosure (ERTD) on firms' Total Factor Productivity (TFP). Drawing on U.S. firm-level data, we employ a difference-in-differences (DID) design to identify the causal effect of ERTD adoption on productivity outcomes. We argue that committing to emission reduction targets can enhance operational efficiency through innovation, process optimization, and resource reallocation. Our findings indicate that firms adopting ERTD experience a statistically significant improvement in TFP relative to non-adopters. The results contribute to operations management and sustainability literature by demonstrating that environmental commitment can generate measurable productivity gains and competitive advantage.

158-0215 Unexpected Benefits of Disclosing Supply Chain Carbon Emissions on Operational Performance

Jihyun Park, Student, Yonsei University, South Korea
Seungrae Lee, Associate Professor, Hankuk University of Foreign Studies, South Korea
Seung Jae Park, Associate Professor, Yonsei University, South Korea

This study examines the unintended operational impacts of Scope 3 emissions disclosure. Using a difference-in-differences approach with propensity score matching on U.S. firm data, we find that initiating disclosure significantly boosts operational performance by enhancing supply chain coordination and reducing inventory buffers. These benefits are amplified for manufacturers with high Scope 3 intensity, greater demand uncertainty, and detailed reporting. Furthermore, positive spillovers to suppliers suggest network-wide efficiency gains. Our findings extend operations theory by positioning carbon disclosure as a strategic coordination mechanism that fosters both environmental transparency and operational excellence.

158-0116 Managing Unintended Consequences in Sustainable Supply Chains

Steffan James, Student, Cardiff Business School, United Kingdom
Daniel Eysers, Lecturer, Cardiff Business School, United Kingdom
Thanos Goltsos, Lecturer, Cardiff Business School, United Kingdom
Yuan Huang, Senior Lecturer, School for Business and Society, United Kingdom

Sustainability initiatives in supply chains frequently generate unintended consequences that can undermine environmental and social objectives. This study examines how such consequences emerge and how they can be managed in complex supply chain systems. Drawing on systems theory and research on unintended consequences, the paper conceptualises supply chains as complex adaptive systems where interventions propagate effects across spatial and temporal boundaries in a panarchic way. Using qualitative longitudinal case research, the study analyses how consequences emerge over time. The findings develop a systems-based framework for anticipating, identifying, and managing unintended consequences, contributing to sustainable supply chain management.

Contributed Session

43	Thursday, 09:00 AM - 10:30 AM, Marie-Louise Ekman Room (A328)	Track: Disruptive Technologies and Operations Management
	Contributed Session: Disruptive Technologies & Operations Management: Emerging Technologies	
	Chair(s): Nagesh Murthy	

158-0290 Actualisation of Blockchain affordances in the Supply chain: A Workaround perspective

Md Rokonzaman, Student, Atlantic Technological University, Ireland
Trevor Clohessy, Senior Lecturer, Atlantic Technological University, Ireland
Graham Heaslip, Professor, Atlantic Technological University, Ireland
Sandy Schumann, Assistant Professor, University College London, United Kingdom
George Onofrei, Senior Lecturer, Atlantic Technological University, Ireland

Actualisation of the affordances of blockchain technology across multiple stakeholders in the supply chain presents significant constraints that demands improvised solutions. This research explores how workarounds as the means of improvised solutions enable the supply chain stakeholders to actualise blockchain affordances effectively. It obtains the result based on expert interviews and a focus group analysis. The analysis reveals four key workarounds and five relevant constraints that critically affect actualisation of blockchain affordances. It signifies that, while workarounds address the constraints, they also affect the current system of work and result in significant trade-off in the performance of the supply chains.

158-0251 A Media Platform's Transparency Strategies for Native Advertising

Ruolin Ding, Student, University of Science and Technology of China, China
Can Sun, Assistant Professor, University of Science and Technology of China, China
Zhe Yin, Associate Professor, University of Science and Technology of China, China

Native advertising, an innovative format designed to disguise itself as a platform's regular media content, is increasingly adopted by media platforms. We develop a game-theoretic model with a media platform, advertisers, and consumers. The platform posts native ads and charges advertisers a per-click fee. Consumers who join the platform may click the ads. We capture the platform's three transparency strategies for native advertising: ambiguous disclosure terms without sponsorship information in ad content, ambiguous disclosure terms with sponsorship information in ad content, and transparent disclosure terms. We derive the optimal strategy choice and its implications for consumer welfare and social welfare.

158-0184 Trust Calibration in AI-Based Training: Evidence from Training Emergency Responders for Decision-Making in High-Stakes

Dehai Liu, Professor, Dongbei University of Finance and Economics, China
Guo Mengyao, Student, Dongbei University of Finance and Economics, China
Nagesh Murthy, Professor, University of Oregon, United States

This study examines AI coaching in risky emergency training through a field experiment with a rescue team. Comparing AI versus human coaching, we find learning performance follows an inverted V-shape: trainees with intermediate experience benefit most. Mechanism analysis reveals trust calibration failures explain this heterogeneity—Rookies suffer cognitive overload, Veterans display overconfidence, while Intermediates optimally calibrate trust. Follow-up experiments show repeated AI exposure helps Rookies, and hybrid AI-human coaching reduces Veterans' resistance. This research theorizes trust calibration as a critical mechanism in AI-mediated training and offers insights for developing adaptive, context-aware AI coaching systems that foster appropriate user trust.

158-0096 Sell Today, Worry Tomorrow: Buy Now, Pay Later in Online Fashion Retail

Thursday, 09:00 AM - 10:30 AM

Christoph Baldauf, Assistant Professor, Stockholm School of Economics, Sweden

Alexander Mafael, Assistant Professor, Stockholm School of Economics, Sweden

Jonas Colliander, Associate Professor, Stockholm School of Economics, Sweden

Product returns remain a major issue for online retailers. The emergence of new, flexible, payment methods that allow customers to buy products without having to pay at the point of purchase may incentivize them to return products at an even higher rate. Such forms of payment are commonly referred to as "Buy Now, Pay Later" (BNPL). In this paper, we examine the role of customers' payment method choice in retail transactions by focusing on the impact of BNPL on sales and returns in online retail, analyzing data from a global fashion retailer containing over 30 million transactions.

158-0206 Task-Oriented AI Optimizers for Product Selection Decisions

Tianmin Sun, Student, City University of Hong Kong, Hong Kong, China

Youhua Li, Student, City University of Hong Kong, Hong Kong, China

Lei Xie, Professor, Laboratory for AI-Powered Financial Technologies Limited, Hong Kong, China

Houmin Yan, Professor, City University of Hong Kong, China

We develop a task-oriented AI optimization framework that empowers online sellers to make product selection decisions under multimodal real-time market signals, operational, and budget constraints. We combine large language models, generative AI, and web agents with quantitative optimization to produce structured decision variables, curated candidate product sets, and high-performance portfolios.

Contributed Session

44

Thursday, 09:00 AM - 10:30 AM, Yinka Shonibare Room (A536)

Track: Behavioral Operations

Contributed Session: Behavioral Operations: Sustainability in Supply Chains

Chair(s): Melvin Drent

158-0117 Understanding consumers purchasing behaviour towards forced labour in global supply chains

Amir Salimi Babamiri, Student, Cardiff Business School, United Kingdom

Maryam Lotfi, Associate Professor, Cardiff Business School, United Kingdom

Nicole Koenig-Lewis, Professor, Cardiff University, United Kingdom

Bahman Rostami Tabar, Professor, Cardiff university/School business school, United Kingdom

Forced labour remains a persistent social sustainability challenge in global supply chains. While consumers increasingly express concern, their purchasing behaviour rarely reflects these attitudes. Prior research often attributes this attitude-behaviour gap to weak moral commitment or limited intention. This study aims to understand consumers' purchasing behaviour towards forced labour and how it is influenced by supply chain structures. The study used dual-system theory. Through qualitative research including 27 interviews with consumers and supply chain managers in the food and drink sector, the study finds how dual-system processes (automatic vs. deliberate) explain the attitude-behaviour gap in ethical purchasing.

158-0080 Does environmental concern of retail investors matter for companies' green innovation? —Evidence from China

Hua Shang, Associate Professor, Dalian University of Technology, China

Ruilin Huang, Student, Dalian University of Technology, China

Stakeholders have an impact on the green innovation of enterprises. This study shows retail investors' environmental concern boosts green innovation in Chinese new energy firms by heightening regulatory pressure and strengthening managerial long-termism, along with digital transformation amplifying this effect, highlighting the role of non-institutional stakeholders in sustainability governance.

158-0344 Corporate Retreat from Social Activism and Consumer Response

Amin Sabzehzar, Assistant Professor, Tulane University, United States

Aida Sanatizadeh, Assistant Professor, Northeastern Illinois Univ, United States

Corporate withdrawal from diversity, equity, and inclusion commitments has become increasingly common, yet its impact on consumer behavior remains unclear. Leveraging Target's 2025 DEI rollback as a quasi-natural experiment, we examine changes in store-level traffic and spending using high-frequency data. We find that withdrawal reduces consumer engagement overall, with effects concentrated in Democratic-leaning and identity-relevant communities, while responses in Republican-leaning areas are muted. Effects attenuate over time and are stronger offline than online. These findings highlight asymmetric, value-driven consumer responses to CSR withdrawal in polarized environments.

158-0249 Does Supplier Trade Credit Expand Consumer Credit at the Bottom of the Pyramid?

Melvin Drent, Associate Professor, Tilburg University, Netherlands

Sebastian Villa, Assistant Professor, University of Colorado Boulder, United States

Rafael Escamilla, Assistant Professor, Arizona State University, United States

Jan Fransoo, Professor, Tilburg University, Netherlands

Josue Velazquez-Martinez, Professor, Massachusetts Institute of Technology, United States

We study whether supplier trade credit to nanostores increases consumer credit at the bottom of the pyramid. We develop a model in which liquidity-constrained shopkeepers allocate capital between base consumers, who always buy, and credit consumers, who buy only if granted credit and may default. The model yields a Newsvendor-type equation and predicts that trade credit should expand consumer credit by relaxing capital constraints. We test this prediction through experiments and a randomized field experiment in Peru. Contrary to theory, shopkeepers become more cautious and do not increase credit provision.

Thursday, 09:00 AM - 10:30 AM

Contributed Session

45

Thursday, 09:00 AM - 10:30 AM, Rana Begum Room (A538) Track: Management of Technology
Contributed Session: Technology: Innovation Ecosystems and Technological Change
Chair(s): Faisal Khurshid

158-0012 Dynamic capabilities and value capture in innovation ecosystems: empirical evidence from Latin America

Juan Sebastian Garcia Pajoy, Student, Universidad Icesi, Colombia
Julio Zuluaga, Associate Professor, Universidad Icesi, Colombia

Why some firms capture more value than others within innovation ecosystems remains underexplored. This study examines firm-level value creation and capture in Latin American ecosystems by integrating theories of Dynamic Capabilities and Profiting from Innovation. Using structural equation modeling on 2015- 2016 Latin American Innovation Survey data from 11,000 manufacturing firms, results show that dynamic capabilities drive value creation, while appropriability mechanisms and complementary assets mediate value capture, highlighting strategic sources of innovation performance. These findings advance theory by unifying DC and PFI into an integrated model of innovation performance and providing validated metrics for assessing value dynamics within innovation ecosystems.

158-0013 Causal configurations of innovation ecosystems: A fuzzy-set QCA of innovation performance in Latin America

Juan Sebastian Garcia Pajoy, Student, Universidad Icesi, Colombia
Mario Chong, Professor, Universidad del Pacifico, Peru
Ana Luna, Professor, Universidad del Pacifico, Peru

Building upon the national innovation ecosystem perspective and using fuzzy-set qualitative comparative analysis (fsQCA), this research proposes an integrative framework to explain national innovation performance in Latin America. Drawing on Global Innovation Index data (2015- 2025), it examines how configurational conditions shape innovation outcomes. The results reveal that high innovation emerges from complementary configurations of human capital, institutional quality, and business sophistication, whereas low innovation stems from systemic deficiencies exacerbated by political transitions and structural constraints. This highlights the asymmetric and interdependent nature of innovation systems in developing contexts.

158-0158 Performance Effects of Repeated Transactions During Technological Evolution

Faisal Khurshid, Assistant Professor, Mr, Hong Kong, China
Woo-Yong Park, Associate Professor, Mr, United States
Anand Nair, Professor, Northeastern University, United States

Firms often face trade-offs in managing supplier relationships during periods of technological change. While relationship duration provide relational benefits, they may reduce flexibility, whereas broader supplier bases enhance access to diverse knowledge but complicate coordination. Extant research rarely examines how these two dimensions jointly influence product performance, nor how their effects shift as technologies evolve. Using data on hybrid electric vehicle (HEV) market from 1999 to 2017, we found that before the emergence of a dominant technology, longer supplier relationships hinder performance while broader supplier bases enhance it; after dominance, these effects reverse.

158-0189 From Statistical Significance to Managerial Relevance in Global Manufacturing

Desiree Blumer, Student, University of Applied Sciences and Arts Lucerne, Switzerland

Global manufacturing networks often exhibit varying levels of operational maturity across sites and organisational units. Determining whether such differences are not only statistically significant but also operationally meaningful is essential for guiding management interventions and the implementation of company-wide management tools. In this study, differences in operational maturity across international production sites are examined using a mixed methods research design. Quantitative data from structured interviews are analysed using ANOVA to identify statistically significant differences. Effect sizes calculated using Cohen's d assess the magnitude of these differences. The quantitative findings are triangulated with qualitative interview analysis to evaluate their relevance.

Contributed Session

46

Thursday, 09:00 AM - 10:30 AM, Room A720 Track: Supply Chain Management
Contributed Session: SCM: Retail Pricing, Channels, and Consumer Strategy
Chair(s): Mehmet Altug

158-0059 Sell the Virtual Before the Physical Product? Managing the Dual Channels for an Apparel Brand

Mariia Petryk, Assistant Professor, George Mason University, United States
Mehmet Altug, Associate Professor, George Mason University, United States

Motivated by the increasing use of virtual goods on digital platforms, we model a brand introducing its virtual apparel product prior to the physical apparel product. We explore under which circumstances it is beneficial for a traditional brand to introduce virtual apparel prior to launching its physical product line. Based on the early demand for the virtual version, the brand updates its demand for the physical product. We show that a brand with a virtual strategy can be simultaneously more profitable and have a lower environmental impact under moderate demand conversion rates. Our results also hold in a competition setting.

158-0299 From E-Commerce to Quick Commerce: Prioritizing Strategic and Stakeholder Consequences in Urban Retail Logistics

Harshad Sonar, Assistant Professor, IIM SAMBALPUR, India
Nikhil Ghag, Assistant Professor, IIM mumbai, India
Bishal Dey Sarkar, Assistant Professor, IIM Bodh Gaya, India
Isha Sharma, Assistant Professor, Symbiosis Institute of Operations Management, India

Thursday, 09:00 AM - 10:30 AM

This study examines capability prioritization in quick commerce (q-commerce) under stakeholder constraints using Resource-Based View and Stakeholder Theory. A systematic literature review identified seventeen consequences, validated through a Delphi study, and prioritized using the COCOSO method with sensitivity analysis. Findings show firms prioritize capability-driven outcomes such as sales growth, competitive advantage, and customer loyalty, while underemphasizing environmental impact, gig worker strain, and societal concerns. Customer satisfaction appears as a baseline expectation rather than a strategic priority. The study offers a consequence-oriented framework to balance growth, stakeholder responsibility, and sustainability in high-velocity urban logistics systems.

158-0304 Assortment Planning with Free Shipping under the MNL Choice Model

Sahika Sahan, Assistant Professor, Texas State University, United States
Hafila Max Morais, Student, Texas State University, United States

The growth of e-commerce and rising fulfillment costs have made shipping policies a key operational lever. We study the integrated problem of assortment planning, free shipping strategies, and fee design under the MNL model and show that general problem is NP-hard. We analyze nine combinations of free shipping strategies and fee policies, characterizing optimal solutions for most cases. When selective free shipping is combined with flat-rate or discounted box-rate fees, the problem remains NP-hard; for these cases, we develop pseudo-polynomial ϵ -approximation algorithms. Numerical experiments identify when each strategy performs best and quantify the impact of shipping costs and customer sensitivity.

158-0328 Reselling or Agency? The Strategic Use of AI Assistance in Online Retailing

Hau Ling Chan, Assistant Professor, Hong Kong Polytechnic University, Hong Kong, China
Bin Shen, Professor, Donghua University, China

Artificial Intelligence (AI) tools are increasingly adopted in online retailing to help consumers accurately select products that match their preferences. While reselling and agency modes are commonly used in practice, their optimal selection in AI-enabled supply chains remains underexplored. This study develops an analytical model to examine optimal contract designs under both modes within a supply chain where the e-retailer provides AI assistance to consumers. By exploring AI deployment across different channel structures, this study provides managerial insights into the impact of using AI in retail. This research is partially supported by The Hong Kong Polytechnic University (Project ID: P0048307).

Invited Session

47	Thursday, 09:00 AM - 10:30 AM, Schumpeter Room (A133) Track: Disaster Management
	Invited Session: Panel: Shifting Landscapes in Humanitarian Operations: Implications for Research and Practice
	Chair(s): Iman Parsa

158-0350 PANEL: Shifting Landscapes in Humanitarian Operations: Implications for Research and Practice

Iman Parsa, Assistant Professor, Stockholm School of Economics, Sweden
Thomas Breugem, Associate Professor, Tilburg University, Netherlands
Adriana Leiras, Professor, Hanken School of Economics, Finland

Recent developments in the humanitarian sector, including tighter funding environments, constrained access, greater emphasis on local actors, and growing use of data and analytics, are reshaping how aid is planned and delivered. This panel discusses how these shifts inform current research agendas and what they imply for strengthening the link between research and practice.

Contributed Session

48	Thursday, 09:00 AM - 10:30 AM, Ragnar (R/ 3001) Track: New Product Development, R&D, and Project Management
	Contributed Session: NPD: Innovation Strategy and Drivers of Innovation Performance
	Chair(s): Ajay Das

158-0229 Green Seeds, Golden Harvest: Corporate Environmental Practices' Impact on NPD performance

Jiawang Tang, Student, University of Science and Technology of China, China
Jibao Gu, Professor, University of Science and Technology of China, China

This study investigates how Corporate Environmental Practices (CEPs) drive New Product Development (NPD) performance through an external supply chain collaboration lens. Drawing on RBV and dynamic capabilities, we identify two distinct moderated mediation paths. Results from 249 firms reveal that CEPs enhance NPD via supplier and customer integration. Crucially, technical turbulence strengthens the supplier-mediated path, while marketing turbulence selectively amplifies the customer-centric route. This research theorizes a dual-path mechanism of external green synergy, revealing how firms strategically leverage specific supply chain integrations to navigate distinct environmental uncertainties, offering a nuanced boundary for product innovation.

158-0309 Stretch Goals, Regulatory Focus, and Ambidextrous Innovation Performance

Miles Yang, Associate Professor, Miles Yang, Australia

To stimulate innovation, organizations often use stretch goals, yet their impact on ambidextrous performance remains debated. This study uses executive interviews and experiments to show that effectiveness depends on a manager's regulatory focus. Specifically, stretch goals enhance performance only for prevention-focused managers. Conversely, promotion-focused managers excel under moderate goals. Qualitative data highlights how alignment routines and risk-buffering help execute these goals. These findings advance behavioral theory by proving that success requires motivational fit, suggesting organizations must tailor goals to managerial cognition and supporting systems to balance exploration and exploitation effectively.

158-0064 Consumer Profile and Consumer-to-Manufacturer Innovation

Lu Hsiao, Professor, National Chung Hsing University, Taiwan
Hui Xiong, Professor, Donghua University, China
Ying-Ju Chen, Professor, Hong Kong University of Science and Technology, Hong Kong, China

Thursday, 09:00 AM - 10:30 AM

This paper investigates how retailers leverage consumer profiling to develop C2M innovative products. The theoretical model demonstrates that manufacturers may strategically encourage C2M innovation to target high-end segments with higher-quality products, effectively managing channel conflict through product segmentation. While brand preferences and two-part tariff contracts further incentivize the retailer to pursue such innovations, the retailer may still withhold information under certain conditions. Ultimately, the study reveals that C2M innovation can benefit both parties without necessarily exacerbating product cannibalization.

158-0175 Distance, Diversity, and the Quality of Innovation

Ajay Das, Professor, Baruch College, United States

Different areas of expertise can be brought together to generate fresh ideas, new knowledge, and innovations. This study examines several forms of diversity within collaborative teams to understand how these combinations shape knowledge creation and innovation. Using data from firms in the semiconductor industry, the analysis finds an overall positive relationship between diversity and innovation quality. Further data is being collected to conduct expanded analysis.

51	Thursday, 11:00 AM - 12:30 PM, Lindgren Room (A342)	Track: Sustainable Operations & Transforming Supply Chains
	Contributed Session: Sustainability: Equity, Inclusion, and Social Responsibility	
	Chair(s): Charles Corbett	

158-0092 Efficiency-Equity Trade-offs of Input vs. Output Subsidies under Farmer Risk Aversion

cheng huang, Student, Harbin Institute of Technology, China

This study examines input versus output subsidies in agriculture under farmer risk aversion, analyzing their trade-off between efficiency and equity. Using a model with heterogeneous risk-averse farmers, we find: (1) higher risk aversion narrows income gaps between farmer types but increases overall inequality; (2) input subsidies consistently improve welfare, while output subsidies have non-monotonic effects for moderately risk-averse farmers and negative effects for highly risk-averse ones; (3) input subsidies reduce inequality, but output subsidies amplify disparities among high-risk farmers. These findings inform subsidy policy design.

158-0174 Diversity "Wishing" in the supply chain. A cross-cultural study through Text Analysis

Susana Santos, Student, Universidad Carlos III de Madrid, Spain

Anna Saez de Tejada Cuenca, Assistant Professor, IESE Business School, Spain

Gemma Berenguer, Associate Professor, Universidad Carlos III de Madrid, Spain

This study analyzes thousands of organizations from the Compustat datasets to study supplier diversity content. We employ fully automated processes to collect and analyze supplier codes of conduct (SCCs) using AI tools and unstructured text analysis. We also design an innovative method for tone classification to evaluate the assertiveness of enforcement language related to diversity in these companies' SCCs. This unique dataset allows us to examine the relationship between the level of supplier diversity content in these companies and their regional context, industry sector, and other factors such as financial performance, ownership type, and sustainability ratings.

158-0291 The Golden Rule? Fairness as a Heuristic in Socially Responsible Decision-Making

Somak Paul, Associate Professor, California State University, East Bay, United States

The opportunistic behavior of suppliers in supply chains has been studied in detail in the literature. However, it remains largely unexplored what the drivers of such behavior are in the context of socially responsible decision-making. In an attempt to move beyond the prevailing discourse of supplier opportunism from the perspective of the buyer in the developed nations, we study buyer behavior that may influence the individual decision-makers in supplier firms. In doing so we explore the functioning of the fairness heuristic in socially responsible decision-making from the supplier's perspective.

158-0306 Are workplaces that are accessible for people with disabilities safer and more profitable?

Fan Zou, Assistant Professor, The Pennsylvania State University, United States

Suresh Muthulingam, Professor, Penn State University University Park, United States

Charles Corbett, Professor, UCLA Anderson School of Management, United States

Sriram Narayanan, Professor, Michigan State University, United States

Designing processes to be more accessible to people with disabilities can often also be beneficial for employees without disabilities. Similarly, less accessible firms may see broader negative consequences. We empirically test both sides of this prediction for manufacturing firms in the US. To measure whether firms provide accessible work environments, we use data on lawsuits under the Americans with Disabilities Act, and inclusion in the Disability Index. We find that firms that provide less accessible work environments (measured by ADA lawsuits) do worse financially and experience more injuries, while disability leaders (determined by the Disability Index) do better financially.

Contributed Session

52	Thursday, 11:00 AM - 12:30 PM, Cabinet Room (A336)	Track: Sustainable Operations & Transforming Supply Chains
	Contributed Session: Sustainability: Energy Systems and Electrification	
	Chair(s): Gal Raz	

158-0120 Integrating EV Charging and Discharging into Power Grid Through Bilateral Negotiation

Yun Fong Lim, Professor, Singapore Management University, Singapore

Linqiu Li, Assistant Professor, University of Science and Technology of China, China

Kai Pan, Associate Professor, The Hong Kong Polytechnic University, Hong Kong, China

To address electricity demand uncertainty and dynamics, a power plant with limited ramping capability can collaborate with an electric vehicle (EV) company. With appropriate charging and discharging prices, the EV company voluntarily withdraws electricity from or returns electricity to the grid during suitable phases. We model their interaction as a bargaining game over these prices, followed by the EV company's charging and discharging problem and power plant's electricity generation problem. We propose a novel "Guess and Verify" approach to solve this bargaining game. We find that EV charging and discharging can smooth the power plant's electricity generation across phases.

158-0199 Battery Energy Storage System placement in presence of price arbitrage and transmission capacity cost.

Ashish Bhandari, Assistant Professor, Masters' Union School of Business, India

Amar Sapra, Professor, Indian Institute of Management Bangalore, India

Renewables are often located far away from demand-centers and losses occur in electricity transmission. We model the problem of deciding the location of a Battery Energy Storage System (BESS) in between source and grid. We find that intermediate position is optimal as opposed to the current norm of on-location BESS.

158-0062 Drivers, Barriers, and Frameworks for Sustainable Mining 4.0 Adoption in Surface Mines

Hilda Chikwanda, Associate Professor, Department of Engineering and Technology Management, South Africa

Thursday, 11:00 AM - 12:30 PM

Thabiso Titisi, Student, Department of Engineering and Technology Management, South Africa

The mining industry faces growing pressure to enhance safety, sustainability, and efficiency through Mining 4.0 technologies, yet adoption in surface mines remains inconsistent. This study examines the drivers, barriers, and enabling mechanisms influencing sustainable Mining 4.0 implementation in South African surface mines. Using a mixed-methods approach, the research identifies efficiency gains, cost reduction, and improved safety as key drivers, while resistance to change, workforce skill gaps, and weak change management hinder integration. The findings highlight the importance of organizational readiness, leadership commitment, stakeholder engagement, and structured implementation frameworks for successful technology-enabled operational transformation.

158-0193 Designing effective policies for driving electric vehicle adoption

Gal Raz, Associate Professor, Ivey Business School, Western University, Canada

Vikash Kumar, Student, Ivey Business School, Canada

Transportation generates one-quarter of energy-related emissions, positioning EVs as central to climate mitigation. Yet adoption remains constrained by high purchase costs and range anxiety. Governments have introduced policies such as taxes on gasoline vehicles, purchase subsidies, and feebate schemes, but their comparative effectiveness remain unclear. We use a game-theoretic model of EV and GV producers to evaluate which policy regimes best accelerate EV adoption and maximizes welfare. We show that no single regime dominates. Carrot-only and flat feebates yield higher adoption when EV ranges are low, while range-linked feebates outperform once range or cost thresholds are crossed.

Contributed Session

53	Thursday, 11:00 AM - 12:30 PM, Marie-Louise Ekman Room (A328)	Track: Geopolitics & Supply Chains
	Contributed Session: Geopolitics: Geopolitical Risk and Supply Chain Reconfiguration	
	Chair(s): Qian Yang	

158-0143 A Sensemaking Framework for Supply Chain Reconfiguration amid Geopolitical Tension

Yan Chen, Student, The University of Manchester, United Kingdom

Fahian Huq, Professor, The University of Manchester, United Kingdom

Grigory Pishchulov, Senior Lecturer, The University of Manchester, United Kingdom

Joep Cornelissen, Professor, Erasmus University Rotterdam, Netherlands

Global supply chains are increasingly weaponised in great-power rivalries. While existing research frames geopolitical phenomena through risk or disruption lenses, it offers limited explanation for why firms facing similar geopolitical pressures adopt divergent supply chain reconfiguration strategies. We propose a 'tension' lens that conceptualises geopolitical tension as an enduring field-level conflict between a market logic and a state logic. Integrating institutional logics with sensemaking, we develop a conceptual framework showing how organisations differentially interpret this conflict through identity-shaped sensemaking, constructing distinct realities that render different reconfiguration paths sensible. We further theorise how these paths evolve through recursive reinforcement and rupture.

158-0202 Geopolitical Ambiguity and Hidden Fragility in Diversified Supply Chains

Sayantan Pramanick, Student, Indian Institute of Management Calcutta, India

Sumanta Basu, Professor, Indian Institute of Management Calcutta, India

China-plus-One sourcing can reduce concentration risk without eliminating upstream dependence on China-linked inputs. We develop a two-period buyer-supplier model in which the buyer chooses orders and a supplier in a friend-shored hub remains exposed to Chinese upstream sourcing. When enforcement becomes more ambiguous, the buyer front-loads orders and builds buffer inventory. This response is stronger when the supplier's upstream dependence makes replenishment more fragile. The paper identifies inventory bloat as an operational cost of superficial diversification. We empirically examine inventory bloat in relation to upstream exposure and ambiguity shocks in trade-compliance enforcement. This work contributes to supply chain diversification research.

158-0056 Disruptions and Logistics: Forecasting Supply Chain Pressures with Bayesian Model Averaging of News-Based Metrics

Juan Lopez, Student, University of California Davis, United States

Miguel Jaller, Professor, University of California Davis, United States

The increased frequency and intensity of supply chain disruptions demand proactive decision-making but are constrained by limited public data. This paper introduces a framework that combines news data with Bayesian Model Averaging to assess and forecast pressures on the Global Supply Chain Pressure Index. Text mining extracts sentiment scores and supply chain-related topics from news articles as predictors. The model explains about 74 percent of the index's variance. Case studies of recent disruptions show that news indicators effectively track supply chain dynamics in near real time and anticipate emerging pressures.

158-0268 Geopolitics of the Nigeria-Morocco Gas Pipeline

Ahmed Iraqi, Assistant Professor, ESCA School of Management, Morocco

The Nigeria-Morocco Gas Pipeline is one of the most ambitious energy infrastructure projects proposed in Africa. Stretching nearly 7000 kilometers along the Atlantic coast, it aims to connect Nigeria's vast natural gas reserves to Morocco and potentially European markets. This paper reviews the geopolitical and economic implications of the project, highlighting its potential role in strengthening regional cooperation, supporting energy access in West Africa, and positioning Morocco as a strategic energy hub between Africa and Europe. The study also examines key challenges related to financing, technical complexity, and geopolitical competition, particularly with the rival Trans-Saharan pipeline project supported by Algeria.

Contributed Session

54	Thursday, 11:00 AM - 12:30 PM, Yinka Shonibare Room (A536)	Track: Behavioral Operations
	Contributed Session: Behavioral Operations: Transportation & Mobility	
	Chair(s): Pascal Wolff	

Thursday, 11:00 AM - 12:30 PM

158-0313 Understanding Urban Air Mobility Adoption for Airport Transportation: Cognitive, Social, and Experiential Drivers

Ekrem Tatoglu, Professor, Gulf University for Science & Technology, Kuwait

Ali Malkoc, Sales Engineer, Turkish Airlines Technic Inc., Turkey

Halit Keskin, Professor, Yildiz Technical University, Turkey

Emel Esen, Professor, Yildiz Technical University, Turkey

Urban Air Mobility (UAM) is emerging as a potential solution to congestion and limited airport accessibility in major cities such as Istanbul. This study examines the behavioral drivers of UAM adoption for airport access using the UTAUT2 framework. Data from 202 air transport users were analyzed to assess the effects of performance expectancy and effort expectancy on adoption intention, together with the roles of social influence and hedonic motivation. The findings show that both expectancy constructs significantly influence intention, while social influence and hedonic motivation shape these relationships.

158-0213 Behavioral Spillovers in Joint Airport Access and Egress Mode Choice

Chi Zhang, Student, The Hong Kong Polytechnic University, Hong Kong, China

Xuanyu Zhang, Student, The Hong Kong Polytechnic University, Hong Kong, China

Gangyan Xu, Assistant Professor, The Hong Kong Polytechnic University, Hong Kong, China

This study examines behavioral spillover effects within multimodal service networks by analyzing air passengers' joint decisions for airport access and egress. Viewing door-to-door travel as an integrated service chain, this research develops a joint discrete choice model using collected travel data of air passengers. It is hypothesized that access and egress choices exhibit demand interdependencies driven by multiple factors, rather than independent preferences. Understanding these dynamics is critical for the operations management of airport ground transportation systems. Consequently, the findings enable Mobility-as-a-Service platforms to optimize multimodal offerings and manage cross-network demand fluctuations in digitalized transportation systems.

158-0200 Beyond Efficiency: A Complexity Measure for Pallet Loading Patterns

Pascal Wolff, Associate Professor, Ningbo Institute for Supply Chain Innovation, MIT Global SCALE Network, China

Bo Li, Associate Professor, Ningbo Institute for Supply Chain Innovation, MIT Global SCALE Network, China

Palletization is a key process in modern supply chains, enabling efficient cargo handling and transport. While many exact and heuristic methods exist to generate pallet loading patterns, solutions with similar space utilization can differ significantly in loading complexity. This paper proposes a method to quantify loading complexity by identifying regular structures within a pattern and applying an entropy-based measure. A computational experiment compares the complexity of patterns generated by various algorithms. Results suggest that the proposed measure can serve as an additional performance indicator alongside pallet utilization when evaluating loading plans with comparable space efficiency.

Contributed Session

55	Thursday, 11:00 AM - 12:30 PM, Rana Begum Room (A538) Track: Supply Chain Management
	Contributed Session: SCM: Inventory Analytics and Warehouse Operations
	Chair(s): Dincer Konur

158-0113 Human-Centered Coordination in Robotic Warehouses: Integrating Worker Preferences into Human-Robot Order Picking

Mahdi Ghorashi Khalilabadi, Student, Rotterdam School of Management, Netherlands

Debjit Roy, Professor, Indian Institute of Management Ahmedabad, India

René De Koster, Professor, Erasmus University Rotterdam, Netherlands

Autonomous mobile robots are increasingly deployed in warehouses to assist human order pickers. Most existing coordination models assume homogeneous workers with fixed processing speeds, overlooking heterogeneity in worker preferences and its operational implications. We study a human-robot collaborative order picking system in which picker preferences over travel distance and item characteristics influence effective execution times. The problem is formulated as an integrated assignment and sequencing model with a dual objective balancing system efficiency and preference alignment. To solve realistic instances, we develop heuristic solution approaches and use them to analyze efficiency-preference trade-offs.

158-0275 NSGA-II for Multi-Objective ABC Classification: An Attribute-Weighted, Cutoff-Based Partitioning of SKUs

Mirna Abou-Mjahed, Assistant Professor, American University of Beirut, Lebanon

KONSTANTINOS PETRIDIS, Assistant Professor, Athens Univ of Econ & Bus, Greece

Fouad Ben Abdelaziz, Professor, NEOMA Business School, France

ABC inventory classification prioritizes stock-keeping units to support differentiated control policies. While multi-criteria extensions consider multiple item attributes beyond annual dollar usage, most models still optimize a single objective, typically cost, overlooking trade-offs between operational goals. Meanwhile, increasing warehouse automation is shifting human roles toward cognitive tasks, yet the burden of maintaining item-level policies remains largely unformalized. This paper proposes a bi-objective ABC framework minimizing Total Relevant Cost and Policy Review Workload. NSGA-II generates Pareto-optimal classifications and K-means clustering identifies policy archetypes. Results on benchmark and real-world datasets show improved cost performance over existing models and reveal actionable cost-workload trade-offs.

158-0139 Sorting Out Reuse: Supply Chain Contracts and Product Variety in Reusable Packaging Systems

Anju Anju, Student, Kühne Logistics University, Germany

Sandra Transchel, Professor, Kühne Logistics University, Germany

Andreas Gernert, Assistant Professor, Kuehne Logistics University, Germany

Reusable packaging adoption creates heterogeneity in brand-specific containers, generating sorting challenges for wholesalers in deposit-refund reverse logistics systems. Existing reverse logistics studies largely overlook multiproducer coordination under container heterogeneity. This paper develops a game-theoretic model of strategic interaction between producers and a wholesaler facing costly sorting. Three scenarios are analysed: no contract, transfer-fee contract, and cost-sharing contract. The analysis derives the wholesaler's best-response effort and symmetric equilibrium incentives, showing that in fragmented markets, producer incentive contributions become unsustainable. Numerical results show that cost-sharing outperforms transfer fees by lowering supply chain costs and improving net return rates, supporting supply chain sustainability.

Thursday, 11:00 AM - 12:30 PM

158-0341 Inventory Control and Shoplifting Prevention Investments

Dincer Konur, Associate Professor, Texas State University, United States
Md Shoaib Ullash, Student, Texas State University, United States
Joshua Schumm, Assistant Professor, Texas State University, United States
Rasim Musal, Associate Professor, Texas State University, United States

We study inventory control and countermeasure investment decisions of a retailer who faces stochastic demand and shoplifting for seasonal products. First, we analyze a newsvendor approximation for inventory control subject to shoplifting. Then, using the approximation model, we study integrated inventory control for multiple items and shoplifting prevention investment decisions subject to a budget limit.

Contributed Session

56

Thursday, 11:00 AM - 12:30 PM, Room A720

Track: Supply Chain Management

Contributed Session: SCM: Retail Competition

Chair(s): Ram Ganeshan

158-0102 Competitive Effects of Private Labels on National Brands' Sales Promotions

Masoud Talebian, Senior Lecturer, Macquarie University, Australia

Many well-known retailers sell their own private labels (PLs) alongside national brands. In response, some national brand manufacturers (NBs) offer price discounts. We examine how private labels affect these promotions in a duopoly environment. In this setting, a brand can compete through sales promotions to increase market share. We analyze calendar layouts for two brands across two retailers. We show that when PLs are attractive, NBs shift from competing against each other to competing against PLs. We also identify conditions under which NBs face a prisoner's dilemma. Our findings deepen the understanding of competitive strategies in markets with private labels.

158-0101 Approximation Schemes for Dynamic Pricing with Opaque Products

Xingxing Chen, Associate Professor, University of Richmond, United States
Levi Devalve, Assistant Professor, Booth School of Business, United States
Jacob Feldman, Associate Professor, Washington University St Louis, United States
Yukai Huang, Student, Washington University in St Louis, United States
Danny Segev, Professor, Tel Aviv University, Israel

We study a multi-period, multi-product dynamic pricing problem in which, in addition to traditional (transparent) products, the platform can create and price an opaque product—defined as a virtual product composed of a subset of the displayed transparent products. When a customer selects the opaque option, the platform retains the flexibility to fulfill the order using any of its constituent products. We develop a constant-factor approximation scheme for the multi-period dynamic pricing problem, leveraging inventory-tracking basis function approximations originally conceived for network revenue management problems.

158-0340 Who Gets Cut during a disruption? Brand vs Private Label in Grocery Retail

Tonya Boone, Professor, William and Mary, United States
Ram Ganeshan, Professor, College of William & Mary, United States
Robert Hicks, Professor, William and Mary, United States
Yu Xia, Professor, College of William and Mary, United States

Mid-size regional grocery chains source national brands and private label through fundamentally different governance structures – one market-mediated, one bilateral. Using transaction records from a large regional supermarket chain over 2019- 2024, we show that national brands were significantly more likely to experience supply shortfalls during both the 2020 demand surge and the 2021- 2022 supply crisis, and that the shortfalls were increasingly driven by active manufacturer allocation decisions even as consumer demand fell. Two category-level structural features – manufacturer entity count and private label program depth – moderate these differentials through distinct channels across the two disruption periods.

Contributed Session

57

Thursday, 11:00 AM - 12:30 PM, Schumpeter Room (A133)

Track: Disaster Management

Contributed Session: Disaster Management: Coordination issues

Chair(s): Iman Parsa

158-0125 Digital Coordination for Disaster Response Operations

Xinyu Teng, Student, Harbin Institute of Technology, China
Jida Liu, Post Doc/Researcher, Harbin Institute of Technology, China
Jian Wang, Professor, Harbin Institute of Technology, China

Digital technologies are reshaping disaster response operations by enabling real time coordination among multiple organizations. This study examines how digital communication platforms support operational coordination and resource allocation during disaster response. Using network analysis of online information exchanges and inter-organizational interactions, the research investigates the structure and dynamics of digitally enabled coordination. The study highlights how digital platforms facilitate information sharing, accelerate resource mobilization, and improve operational efficiency while also introducing new coordination challenges. The findings contribute to disaster management research by explaining how digital coordination mechanisms enhance resilience and improve the performance of disaster response systems.

158-0232 Cooperation or Collaboration? Aviation Emergency Rescue Network Design in City Clusters

Yujia WANG, Student, The Hong Kong Polytechnic University, Hong Kong, China
Gangyan Xu, Assistant Professor, The Hong Kong Polytechnic University, Hong Kong, China
Jian Wang, Professor, Harbin Institute of Technology, China

Thursday, 11:00 AM - 12:30 PM

Xiaowei HU, Assistant Professor, Harbin Institute of Technology, China

Our study addresses the governance dilemma in designing aviation emergency rescue networks for city clusters. We compare two mechanisms: cooperation (independent resource ownership with cross-regional sharing) and collaboration (joint ownership managed by an umbrella organization). Using two-stage stochastic programming to optimize depot locations, inventory, and heterogeneous fleets, we analyze major Chinese city clusters. Results show that while collaboration yields system-wide optimality, cooperation significantly reduces administrative barriers. Ultimately, the optimal policy choice heavily depends on the participating cities' risk and economic heterogeneity.

158-0311 Adaptive Disaster Assessment with UAVs under Uncertain Information Value and Spatial Correlation

Zhengxiong ZHU, Student, The Hong Kong Polytechnic University, Hong Kong, China

Wenzhao Dong, Student, The Hong Kong Polytechnic University, Hong Kong, China

Peng Sun, Associate Professor, Tianjin University, China

Gangyan Xu, Assistant Professor, The Hong Kong Polytechnic University, Hong Kong, China

UAV-based disaster assessment is complicated by coupled uncertainty in information values and endogenous assessment durations across geographically dispersed sites. We model spatial correlation using a Gaussian Process, capturing geographic and infrastructure dependencies and enabling real-time Bayesian updates that refine beliefs over unvisited locations. We propose an adaptive planning framework integrating receding horizon optimization with a Bayesian control layer to manage dual uncertainties under UAV endurance constraints. Computational results show that dynamic reoptimization improves information acquisition and mitigates environmental volatility relative to static policies. The framework provides a scalable decision-support tool for rapid and reliable situational awareness in emergency response.

Contributed Session

58	Thursday, 11:00 AM - 12:30 PM, Ragnar (R/ 3001)	Track: Disruptive Technologies and Operations Management
	Contributed Session: Workshop on Qualitative Comparative Analyses (QCA)	
	Chair(s): Mohsin Malik	

158-0030 Leveraging Qualitative Comparative Analyses (QCA) for Middle-range Theorising in Operations and Supply Chain

Mohsin Malik, Associate Professor, Swinburne University of Technology, Australia

This workshop introduces configurational theorising as a novel approach to developing middle-range theories in operations and supply chain management. By linking philosophical underpinnings with practical methodological execution, participants will gain a robust understanding of how to harness configurational theorising to generate novel contextual insights. The workshop focuses on Qualitative Comparative Analysis (QCA), a method well-suited for uncovering causal complexities. Participants will explore the principles of QCA, with particular emphasis on its applicability to middle-range theorising. A hands-on session with the fuzzy-set QCA (fsQCA) software will provide attendees with practical skills to design and execute configurational analyses in their own research.

Contributed Session**63**

Thursday, 02:30 PM - 04:00 PM, Marie-Louise Ekman Room (A328) Track: Geopolitics & Supply Chains

Contributed Session: **Geopolitics: Technology, Sovereignty, and Systemic Risk**

Chair(s): Sina Behzadifard

158-0105 Quantifying Communication Risk in Global Semiconductor Supply Chains: A Multilingual Network Analysis

Chia-hua CHANG JANKOVSKY, Student, University of Strasbourg , Italy

Global semiconductor supply chains span five or more language zones, yet communication risk remains absent from existing disruption frameworks. This paper quantifies how multilingual information asymmetry amplifies disruption propagation across semiconductor supply chain networks. Using network analysis on public reports and quantitative data from industry sources, we construct a Communication Risk Index measuring information attenuation at language boundary crossings between supply chain nodes. Preliminary findings suggest that distributors and local branches play a critical intermediary role in absorbing or amplifying communication-driven disruptions. Results provide a novel, measurable risk dimension with implications for supply chain resilience strategy and multilingual operations management.

158-0148 Technology Sovereignty in Quantum Computing Supply Chains

Sina Behzadifard, Student, Stockholm School of Economics, Sweden

Omid Maghazei, Assistant Professor, University of Bath, United Kingdom

Matin Mohaghegh, Assistant Professor, Vienna Univ of Econ & Business Admin, Austria

Michael Lewis, Professor, University of Bristol, United Kingdom

Technology sovereignty, defined as a state's capacity to develop and regulate strategically critical technologies independent of foreign actors, has become a central policy concern. Yet governments exhibit systematic asymmetry in monitoring dependencies across supply chain tiers. This study investigates quantum computing supply chains, integrating panel data on upstream material import concentration, midstream patent concentration, and federal procurement to test government responsiveness. Findings show that U.S. helium imports from geopolitically constrained sources fell 85 percent between 2018 and 2024, while midstream patent concentration rose 62 percent with no differential government funding response, producing a sovereignty gap that may constrain technology evolution.

158-0266 The role of technological innovations in mitigating geopolitical disruptions

Igbo Ekiugbo, Lecturer, University of Salford, United Kingdom

Daniel Dasimaka , Student, University of Salford, United Kingdom

UK businesses have continued to experience prolonged challenges emanating from different geopolitical disruptions since its withdrawal from the single European Union market. These disruptions test the resilience of UK businesses and that of their supply chains, creating unprecedented challenges that persist. This research aims to assess the impacts of geopolitical disruptions on UK supply chains and ascertain the role of innovative technologies. This research will collect firm-level data from UK businesses on the impacts of geopolitical disruptions, types of technologies used and specific methods of implementation to predict and mitigate impacts on their supply chains.

158-0267 Optimal Monitoring and Mitigation of Systemic Risk in Financial Networks

Borja Peleato, Assistant Professor, Universidad Carlos III de Madrid, Spain

We study the problem of optimally allocating a cash injection into a financial system in distress to minimize the weighted sum of unpaid liabilities. In the simplest case, this problem is equivalent to a linear program, but we extend the model with multiple seniorities, credit default swaps, and bankruptcy costs. For each of these extensions, we show that the optimal cash allocation strategy can be found via a mixed-integer linear program. Our results provide algorithmic tools to help financial institutions, banking supervisory authorities, regulatory agencies, and clearing houses in monitoring and mitigating systemic risk in financial networks.

Contributed Session**64**

Thursday, 02:30 PM - 04:00 PM, Yinka Shonibare Room (A536) Track: Behavioral Operations

Contributed Session: **Behavioral Operations: Focus on the individual**

Chair(s): Stefan Haeussler

158-0127 From individual to team productivity: The influence of digital technologies on helping behaviors

Michela Carraro, Assistant Professor, NEOMA Business School, France

Ambra Galeazzo, Professor, University of Padova, Italy

Digital technologies promise connectivity but often foster isolation. While digital technologies (such as augmented reality (AR), wearables, and IoT devices) may enhance individual productivity by providing real-time data and reducing errors, their impact on team dynamics remains unclear. In team-based manufacturing collaboration, knowledge sharing, and mutual support are critical. Yet, digital devices may disrupt these interactions, reducing spontaneous communication and awareness of teammates' needs. Using a laboratory experiment, this study investigates whether such tools facilitate or hinder collaboration on the shop floor, and their net effect on productivity when balancing individual efficiency and team outcomes.

158-0119 Integrated staffing and scheduling with fatigue, fairness, and sick leave in construction projects

Saeed Aramesh, Student, Rmit University, Australia

Ron Wakefield, Professor, School of Property, Construction and Project Management (PCPM), Australia

Babak Abbasi, Professor, Rmit University, Australia

Thursday, 02:30 PM - 04:00 PM

With the prolonged housing crisis, residential construction projects faced more severe delivery delays, shortages of workers, quality shortfalls, and employee turnover, yet most scheduling and staffing models still assume deterministic and perfectly reliable staff availability. This abstraction ignores the key aspects of operational impacts of human factors. This paper develops an integrated optimisation model for integrated scheduling and staffing decisions in residential construction projects while explicitly incorporating human-centric factors such as fatigue exposure, fairness regulation, quality shortfall, and fatigue-based sick leave using a residential case study.

158-0241 The Forecast Tug-of-War: Anchoring Effects in Sales & Operations Planning

Stefan Haeussler, Associate Professor, University of Innsbruck, Austria
Theresa Pfennig, Student, University of Innsbruck, Austria
christian König-Kersting, Associate Professor, Jönköping University, Sweden

Sales and Operations Planning aligns strategic objectives with operational execution by balancing supply and demand through cross-functional coordination. Demand planners reconcile competing priorities from sales, emphasizing revenue and service levels, and operations, focusing on cost and capacity. Because forecasts are revised as organizational inputs emerge, the process may be influenced by cognitive biases. This study examines how the sequence of sales and operations information affects forecast revisions. In a laboratory experiment, participants act as sales, operations, and demand planner, with the latter determining the final forecast and all payoffs. Treatments vary information type and order to identify systematic sequence effects.

Contributed Session

65	Thursday, 02:30 PM - 04:00 PM, Rana Begum Room (A538) Track: Supply Chain Management
	Contributed Session: SCM: Digital Resilience, Financial Integration, and Supply Chain System Performance
	Chair(s): Qian Yang

158-0017 Reinforcement Learning Meets Supply Chain Finance: Transforming Cash Flow Optimization

Yehan Dou, Student, Macquarie University, Australia
Ruoyu Li, Student, The university of Wollongong, Australia
Peter Shi, Lecturer, Macquarie University, Australia
Masud Behnia, Professor, Università degli Studi di Napoli Parthenope, Italy

Global trade and digital finance are reshaping supply chain finance, where liquidity and risk must be optimized in real time. We propose a reinforcement learning framework that learns dynamic cash flow strategies for SCF platforms. The model combines machine learning credit evaluation, multi-agent decision making, and adaptive policy learning to address dynamic pricing, static scoring, and misaligned incentives. SCF is formulated as a stochastic Markov decision process with game-theoretic negotiation between borrowers and lenders. Experiments using simulations and multinational corporate data show lower borrower costs, better default control, and higher platform profitability across macro financial regimes.

158-0014 From Speed to Synchrony: Reframing Supply Chain Agility Through Temporal Alignment

Eias Al Humdan, Assistant Professor, Rabdan Academy, United Arab Emirates
Peter Shi, Lecturer, Macquarie University, Australia
Masud Behnia, Professor, universita degli studi di Napoli Parthenope, Italy

This paper reconceptualizes supply chain agility (SCA) as a temporal, not speed-driven, phenomenon. It introduces Temporal Agility (TA), a meta-capability that governs when adaptive actions occur and how they align across cognitive, organizational, and inter-organizational levels. Existing models emphasize speed, yet recent global disruptions show that haste without synchronization creates fragmentation. Drawing on dynamic capabilities, temporal cognition, and process theory, TA frames agility as the coordinated timing of sensing, decision-making, and reconfiguration. The paper advances a temporal turn in agility research, arguing that adaptability emerges from orchestration and timing, not acceleration alone. Agility means moving on time, together, not faster.

158-0204 Stability of Farsighted Coalitions in Decentralized Supply Chains

Peeyush Mehta, Professor, Indian Institute of Management Calcutta, India
Conan Mukherjee, Associate Professor, Indian Institute of Management Calcutta, India

We analyze a supply chain comprising a set of suppliers producing complementary components for a common manufacturer. We consider the possibility that the suppliers can form coalitions in order to reduce horizontal inefficiencies. The extant results on horizontal inefficiency distinguish between myopic and farsighted agents, and show that a grand coalition amongst suppliers is stable when agents are farsighted. Using cooperative game theory, we examine the stability of suppliers' coalitions assuming that the suppliers are farsighted. Our main contribution is to show that under specific conditions, the grand coalition is not stable with farsighted agents.

158-0018 Nearer or farther? Respond to Geopolitical Risks by Reconfiguring Supply Chain

Qian Yang, Associate Professor, Northwestern Polytechnical University, China
Tianxiong Li, Student, Northwestern Polytechnical University, China
Xiande Zhao, Professor, China Europe International Business School, China

Using geographical distances between focal firms and upstream suppliers and downstream customers as the dependent variable, the study examines the direct effects of risk triggered by government sanctions and technological ecosystem uncertainty on geographical layout of supply chains of firms. It further analyzes the moderating roles of country-level and industry-level complexity and supply chain network position. The findings reveal that business uncertainty and technological ecosystem uncertainty significantly shorten the geographical distance between firms and their downstream customers. Firms' positions as a supply-chain network hub and their network influence effectively mitigate while country-level supply-chain complexity reinforces the corresponding relationships.

Contributed Session**66**

Thursday, 02:30 PM - 04:00 PM, Room A720

Track: Supply Chain Management

Contributed Session: **SCM: Procurement & Ethics**

Chair(s): Dwaipayan Roy

158-0131 Supply Chain Ethical Leadership and Sustainable Supplier Selection: An Institutional Theory Perspective

David Awe, Student, Atlantic Technological University, Ireland

Sustainable supplier selection has become increasingly important as organisations face growing pressure to adopt responsible sourcing practices. However, how ethical leadership influences supplier selection decisions remains insufficiently understood. This study examines the relationship between Supply Chain Ethical Leadership (SCEL) and Sustainable Supplier Selection (SSS) from an Institutional Theory perspective. It proposes that coercive, normative, and mimetic pressures shape the adoption of ethical leadership behaviours in procurement decisions. The study develops a conceptual framework linking institutional pressures, ethical leadership, and sustainable supplier selection, offering insights into how institutional environments influence ethical and sustainability-oriented sourcing decisions.

158-0162 Procurement Reforms and Normalization of Supply Network Misconduct

Geng Wang, Assistant Professor, University of Liverpool, United Kingdom

Zhaohui Wu, Associate Professor, Oregon State University, United States

This study examines how misconduct persists in supply networks undergoing procurement reform. Drawing on four cases of pharmaceutical procurement in China's healthcare system, we show how hospitals, suppliers, and health authorities sustain illicit payment arrangements under tightening regulatory constraints. We conceptualize these practices as supply network misconduct and explain how network orchestrators justify rule deviation, institutionalize illicit exchanges through organizational vehicles and governance routines, and legitimize them through symbolic labeling and institutional endorsement. Over time, these processes embed illicit exchanges within procurement, leading to the normalization of supply network misconduct despite continued regulatory change.

158-0177 Gender and Racial Gaps in Federal Procurement for Veteran-Owned Small Businesses

Dwaipayan Roy, Assistant Professor, University of Virginia, United States

Yi Tang, Assistant Professor, Old Dominion University, United States

This study examines disparities in the awarding of higher-value federal contracts between Woman and Male Veteran-Owned Small Businesses (VOSBs) and evaluates the extent to which preferential contracting provisions mitigates these disparities. Analyzing granular data on 597,619 contracts awarded to VOSBs by 15 U.S. federal agencies over 17 years, we find that Woman VOSBs are, on average, more likely to receive higher-value contracts. However, this advantage is driven entirely by preferential industries in which competition is restricted to women-owned small businesses. Heterogeneity analysis reveals pronounced intersectional differences: White Woman VOSBs benefit more from preferential industry provisions than Minority Woman VOSBs.

158-0090 Strategic role of Pharmaceutical Supply Chain Inspections on Drug Supply and Quality

Parshuram Hotkar, Assistant Professor, Indian School of Business, India

We develop a game-theoretic model of a pharmaceutical supply chain to study drivers of quality heterogeneity. With regulatory inspections at retail nodes, asymmetric equilibria emerge where one supplier maintains quality while another does not, revealing how inspection drives supply chain incentives that shape access and quality trade-off in healthcare markets.

Contributed Session**67**

Thursday, 02:30 PM - 04:00 PM, Schumpeter Room (A133)

Track: Disaster Management

Contributed Session: **Disaster Management: Resilience & Societal Response**

Chair(s): Maria Angelica Gomes da Silva

158-0078 Social Media and Donations During Disasters

Changseung (Chang) Yoo, Assistant Professor, Yeshiva University, United States

Disaster response organizations use social media to raise funds, but prior work treats messaging, engagement, and public attention separately. We theorize a donation system linking DRO activity, public engagement, and public interest, and test it with hourly Twitter and donation data from the Canadian Red Cross during the 2016 Fort McMurray wildfire. A VAR model shows tweets increase donations directly via impressions/clicks and indirectly via retweets, user-generated content, and heightened public interest. Indirect effects exceed direct effects after 10 hours (35% vs 26%). Positive-empathy tweets outperform negative-empathy tweets.

158-0197 From Ecosystem Services to Disaster Resilience: A Bibliometric and Thematic Evolution Analysis of Nature-Based Solutions

Rasinina Rahman, Student, The University of Edinburgh, United Kingdom

This study conducts a bibliometric and thematic evolution analysis of Nature-based Solutions (NbS) in the context of disaster resilience. Using 1,816 articles sourced from the Scopus database (2016- 2025), the research employs VOSviewer and Biblioshiny to map publication trends, key contributors, collaboration networks, and thematic clusters. Findings reveal steady growth in NbS research, with significant international co-authorship and increasing scholarly attention. The analysis identifies dominant research topics, leading countries, and prominent authors, offering a structured overview of how NbS scholarship has evolved in addressing disaster risk reduction (DRR), climate adaptation, and ecosystem-based resilience strategies.

158-0055 Critical Infrastructure, Risk and Resilience: Designing Wildfire Evacuation Routes in Wildland-Urban Interface Areas

Daniel Orlando Rivera Royero, Assistant Professor, tecnologico de monterrey, Mexico

Miguel Jaller, Professor, University of California Davis, United States

Thursday, 02:30 PM - 04:00 PM

Wildfires are a major concern in wildland-urban interface areas, where rapid fire spread and restricted road networks can severely constrain evacuation. This paper designs evacuation plans by identifying the most critical and resilient corridors within a road network based on pre-estimated risk assessments. The methodology integrates mathematical optimization with wildfire risk assessment using OpenStreetMap, the American Community Survey, the National Risk Index, and road network performance risk data. A California case study, including simulation of the Camp Fire, estimates minimum clearance time, identifies essential routes, and evaluates evacuation performance under delayed evacuation scenarios.

158-0252 Systemic Views on Climate Change and Humanitarian Operations: Combining Policy Approaches

Maria Angelica Gomes da Silva, Post Doc/Researcher, Hanken School of Economics, Finland

Eduardo Franco, Post Doc/Researcher, Universidade de São Paulo, Brazil

Luiza Cunha, Post Doc/Researcher, Universidade de São Paulo, Brazil

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Climate change is intensifying the frequency and severity of disasters, creating challenges for humanitarian operations. However, analytical approaches remain fragmented: prior models capture long-term climate dynamics but overlook disaster processes, while disaster models treat climate change as an external driver. This study develops a System Dynamics simulation model linking climate dynamics to disaster risk. The framework embeds a climate module inspired by the DICE model within a disaster risk structure capturing feedback among exposure, vulnerability, recovery capacity, and damage. Simulation results illustrate how rising temperatures amplify disaster frequency and strain response systems, providing insights for humanitarian planning and resilience investments.
