Enhancing Supply Chain Efficiency through GenAI Solutions

General Information

The Supply Chain Innovation Network (SCIN) is pleased to host its next in-person meeting at Columbia Business School (CBS) on Thursday, June 13th, 2024 from 8:30 am to 3:15 pm ET. Hosted by CBS' W. Edwards Deming Center and sponsored by EY, the meeting will feature a full-day event of academic and industry presentations and peer discussion on how GenAI is changing supply chain and opening new opportunities in diverse industries. Breakfast and lunch will be provided, and the day will start with a "speed-networking" session.

When:	**Thursday, June 13th, 2024** 8:30 am to 3:15 pm ET
Where:	**Henry Kravis Hall, Rooms 680, 880, and 890** 665 West 130th Street, New York, NY 10027
Attire:	Business casual
Contacts:	**Molly Muench** mm6209@gsb.columbia.edu (212) 853-8598

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Agenda

8:30 – 9 am **Breakfast**
Henry Kravis Hall 880

9 – 9:30 am **Speed-networking**
Henry Kravis Hall 680

Timed speed-networking session to foster networking opportunities for SCIN members

9:30 – 9:40 am **Break and Transfer to Classroom**
Henry Kravis Hall 890

9:40 – 9:45 am **Introduction by Angela Quintero and Glenn Steinberg**
Henry Kravis Hall 890

Introduction of new members, meeting topic, and the day's speakers

9:45 – 10:30 am **"(Gen)AI x Supply Chains: A No-BS Discussion on the Past, Current, and Future Applications and Limits," Nicholas DeGiacomo**
Henry Kravis Hall 890

This talk by a former AI researcher and data scientist at Amazon, consultant, and CEO of Bucephalus, a venture-backed AI startup taking on the likes of SAP & BlueYonder, will explore the evolution of AI and its applications within supply chain management. It will highlight transformative impacts and challenges encountered to date, as experienced from the front line. The discussion will provide a historical overview of AI, examine the challenges of deploying and maintaining models, and highlight exciting trends and research. The session aims to offer a comprehensive overview, fostering a deeper understanding among attendees about the evolving roles of AI & GenAI in optimizing supply chain processes.

10:30 – 11:30 am "**Derisking Your Supply Chain: How AI Can Leverage News and Data for Better Decisions," Srikanth Jagabathula**
Henry Kravis Hall 890

Today's complex global supply chains face constant disruptions—from fluctuating demand to volatile upstream costs. Predicting these shifts can be a game-changer for businesses, allowing better planning of sourcing, procurement, and inventory. This talk dives into how cutting-edge AI can help businesses to derisk their supply chains. We'll explore how AI goes beyond traditional data to analyze unstructured information like news articles, uncovering valuable signals about future market shocks. We'll showcase a real-world application: using AI to forecast commodity prices, a major cost concern for many companies. Our research analyzed 15 years of food price data alongside 1.6 million news articles, demonstrating that combining these sources improves forecast accuracy by over 16 percent.

11:30 am – 11:45 pm Break

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11:45 am – 12:30 pm   **"Operating Adaptable AI to Transform Warehouse Logistics," Alex Harvey**
Henry Kravis Hall 890

This talk will cover the fundamental economic principles underpinning Ocado Group's warehouse logistics operation, and how we deploy next generation AI to adapt to the infinite complexity with picking and packing hundreds of thousands of different items to transform the operational economics.

12:30 – 1:45 pm   **Lunch**
Henry Kravis Hall 880

1:45 – 2:30 pm   **"Toward Scalable and Fine-grained Inventory Management with Neural Networks," Daniel Russo**
Henry Kravis Hall 890

AI systems increasingly power digital customer interactions. Cloud similar technology power inventory buying decisions? We develop an approach to optimize inventory policies using a differentiable simulator that replays demand patterns in historical data. In "textbook" problems, our trained neural networks consistently match the behavior of the true optimal policy. When evaluating on real time-series data from a large supermarket chain, we find our inventory buying policies substantially outperform a variety of newsvendor-type policies—which are common in practice. I will conclude with some thoughts on the promise and challenges of using neural networks in logistics problems, drawing partly on my first-hand experience applying them in industrial recommender systems.

2:30 – 3 pm   **"Navigating the Future: GenAI's Role in Driving Autonomous Supply Chains," Ayoub Abielmona**
Henry Kravis Hall 890

This session will explore how GenAI's advanced capabilities are key to accelerating the transition to self-driving supply chains, offering innovative solutions to complex logistical and sourcing demands. Drawing on findings from new research from EY and HFS, Abielmona will provide a snapshot of where companies stand in their autonomous journey and the practical insights they are acquiring. The session will wrap up with demonstrations of Gen AI applications, such as SourceGPT, illustrating its effectiveness in helping automate supply chain functions.

3 – 3:15 pm   **Closing Discussion**
Henry Kravis Hall 890

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Speakers

Ayoub Abielmona
Senior Manager of Business Consulting, EY

As Senior Manager in Business Consulting at EY, Ayoub Abielmona brings in an ideal blend of technical and business skill set, helping to connect dots, build consensus, and drive execution. For more than 20 years, he has assisted executives in navigating emerging technologies to uncover new revenue streams, help resolve complex business challenges and activate digital innovations that drive long-term value. Abielmona holds a BS in Computer Science and MS in the Management of IT from the University of Virginia, where he has served as an advisory board member. He earned two MicroMaster credentials in Digital Leadership and Digital Product Management from Boston University. Additionally, he is a published author, whose seminal writing about the "speed of expectation" and its impact on the digital economy was published in *Entrepreneur Magazine*.

Nicholas DeGiacomo
Founder and CEO, Bucephalus Tech; Adjunct Associate Professor of Applied Statistics, Columbia University

Nicholas DeGiacomo is a technical leader deeply rooted in the AI and tech arena. He is Founder and CEO of Bucephalus Tech, a start-up democratizing advanced AI-powered supply chain planning and analytics tools to American small and medium-sized eCommerce brands and retailers, helping them plan and move products faster, cheaper, and more sustainably. Prior to founding Bucephalus, DeGiacomo was a Data Science Lead at Amazon. Additionally, he is an Adjunct Associate Professor of Applied Statistics at Columbia University, where he also holds an MS in Mechanical Engineering.

Alex Harvey
Chief of Advanced Technology, Ocado Technology

After studying Mechanical Engineering and Computer Science in Edinburgh, Alex Harvey started his career as a software engineer and vibration analyst in the aerospace industry. He worked for HGL Dynamics and was sub contracted into Rolls Royce as a vibration expert. Harvey led the redevelopment of the entire HGL analysis suite of applications as well as negotiating, specifying, and managing the delivery of a condition monitoring and proactive maintenance system that operates on all turbine-powered Royal Navy surface ships. Since joining Ocado in 2010, Harvey worked as project manager, delivering a second generation, highly efficient goods-to-person picking system, and as Head of Robotics and Autonomous Systems, where his wide-ranging responsibilities include the technology development of Ocado's proprietary warehousing automation, before his current role as Chief of Advanced Technology.

Srikanth Jagabathula
Associate Professor of Technology, Operations, and Statistics, Stern School of Business, New York University (NYU)

Srikanth Jagabathula is the Robert Stansky Research Faculty Fellow, Associate Professor of Technology, Operations, and Statistics, and Academic Director of the Anand Khubani BS in Business, Technology, and Entrepreneurship program at the NYU Stern School of Business. His academic journey includes a year as Visiting Associate Professor of Technology and Operations Management at Harvard Business School, teaching courses on operations management, AI, and machine-learning (ML) across undergraduate, graduate, PhD, and executive levels, earning recognition as one of Poets & Quants' "Top 40 Under 40 Outstanding Business School Professors." He is an expert on algorithmic retail execution, and his research
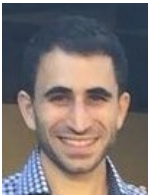
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focuses on using AI and ML algorithms to optimize supply chain decisions for various businesses, ranging from traditional retailers and brands to digital content platforms.

Angela Quintero
Adjunct Assistant Professor, Decision, Risk, and Operations (DRO) Division, CBS; Managing Director, W. Edwards Deming Center, CBS

Angela Quintero is Managing Director of the W. Edwards Deming Center at CBS, which promotes operational excellence in business through the development of research and best practices. There, Quintero directs the Entrepreneurship and Competitiveness programs across Latin America, Africa, and the United States, which equip entrepreneurs from small to mid-sized companies with the skills, tools, and network to professionalize and grow their businesses in today's global environment. Prior to joining CBS in August 2013, Quintero worked for Booz Allen Hamilton in the operations practice in the US and Europe, and as a Director for the Global Intelligence Alliance in Hong Kong. In 2003, Quintero founded her own entrepreneurial venture distributing imported flowers from South America throughout Europe. She holds a BS in mathematics from Universidad de Los Andes in Colombia, an MS in social sciences from the University of Chicago, and an MS in management science engineering from Stanford University. Originally from Bogota, she is trilingual in Spanish, French, and English, and lives in New York with her husband and three kids.

Daniel Russo
Philip H. Geier Jr. Associate Professor of Business, DRO Division, CBS

Daniel Russo joined the DRO Division of CBS in 2017, where teaches a core MBA course on statistics and a PhD course on dynamic optimization. His research lies at the intersection of statistical ML and online decision-making, mostly falling under the broad umbrella of reinforcement learning. Outside academia, he works with Spotify to apply reinforcement learning style models to audio recommendations. Russo's research has been recognized by the Frederick W. Lanchester Prize, a Junior Faculty Interest Group Best Paper Award, and first place in the George Nicholson Student Paper Competition. He serves as an associate editor at the journals *Management Science* and *Stochastic Systems*. Prior to joining Columbia, he spent one year as an assistant professor in the MEDS department at Northwestern's Kellogg School of Management and one year at Microsoft Research in New England as Postdoctoral Researcher. He received his PhD from Stanford University in 2015 and his BS in mathematics and economics from the University of Michigan in 2011.

Glenn Steinberg
Global and Americas Supply Chain and Operations Leader, EY

Glenn Steinberg serves as EY Global Supply Chain and Operations Leader, helping to drive high-impact strategies and business execution across the Fortune 500. He is a seasoned professional with extensive supply chain and operations experience. Prior to joining EY, he led many supply chain transformations in several leadership roles. Steinberg holds an MBA in finance and operations management from Columbia University and a degree in electrical engineering from Union College.

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Confirmed Attendees

Takshay Aggarwal
Partner and Platform Leader, Americas Supply Chain Growth, EY

Jiraway Anunrojwong
PhD Candidate, DRO Division, CBS

Santiago Balseiro
Associate Professor of Business, DRO Division, CBS

Marcelo Barroso
VP, Supply Chain Services, Tenaris

Deborah Berebichez
Partner and Global AI Transformation Product Leader, EY

Ariel Boyarsky
PhD Candidate, DRO Division, CBS

Alexa Brodsky
MBA Candidate, CBS

Eli Carmeli
President, ePayments USA, G+D

Bret Celmer
VP, Supply Chain, FreshDirect

Nicole DeHoratius
Professor of Professional Practice, DRO Division, CBS

Jennifer Echlov
Senior Associate Director, W. Edwards Deming Center, CBS

Gerry Feigin
Partner and Director, BCG GAMMA

Nelson Fraiman
Professor of Professional Practice, DRO Division, CBS; Faculty Director, W. Edwards Deming Center, CBS

Geoff Gates
Senior Director, P2P and Technology, Cleveland Clinic

Staale Gjervik
President, Supply Chain, ExxonMobil

Matthias Graefe
Director of Supply Chain Transformation, IBM

Tony Horton
VP, Global Supply Chain Operations, IBM

Yash Kanoria
Associate Professor of Business, DRO Division, CBS

Akshit Kumar
PhD Candidate, DRO Division, CBS

Hongyao Ma
Assistant Professor of Business, DRO Division, CBS

Stephane Masson
Senior VP, Global Procurement, Marriott International

Omar Mouchtaki
PhD Candidate, DRO Division, CBS

Molly Muench
Associate Director, W. Edwards Deming Center, CBS

Utkarsh Patange
PhD Candidate, DRO Division, CBS

Simon Preisler
Director of Logistics, Central National Gottesman, Inc.

Kevin Prouxl
Senior Operations Leader, National Grid

Jimmy Qin
PhD Candidate, DRO Division, CBS

Chao Qin
PhD Candidate, DRO Division, CBS

Liselle Regis Christian
VP, Strategy & Operations, Global Supply Chain & Logistics, Target

Lucas Rettig
Senior Director of Product Management, Target

Matias Romero
PhD Candidate, DRO Division, CBS

Jaspreet Singh
Vice President, Corporate Services, DTE Energy

Kenneth Stern
President, Palisades Media Ventures

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Tianyu Wang
PhD Candidate, IEOR, Columbia University

Jeff Williamson
SVP, Operations, Performance Food Group

Wenxin Zhang
PhD Candidate, DRO Division, CBS

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Additional Information

Nearby Hotels: **Arthouse Hotel New York**
222 West 77th St, New York, NY 10024

The Lucerne Hotel
201 West 79th St, New York, NY 10024

Nearest Airports: **LaGuardia Airport (LGA)**
Queens, NY 11371
(30 – 45 minutes to CBS traveling by car)

John F. Kennedy International Airport (JFK)
Queens, NY 11430
(1 – 1.5 hours to CBS traveling by car)

Newark Liberty International Airport (EWR)
Newark, NJ 07114
(30 – 45 minutes to CBS traveling by car)

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