Digitization of Retail and The Urban Experience

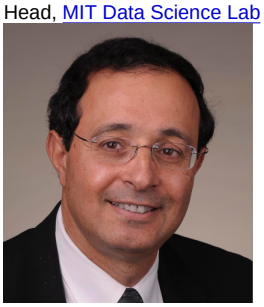
October 27, 2020 10:00 am - 12:00 pm

10:00am - 11:00am

The Digitalization of Retail Supply Chains and Next-Generation Digital Systems for Commerce

End-to-End Transformation through Supply Chain Digitalization

David Simchi-Levi
Professor of Engineering Systems
Head, MIT Data Science Lab



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Professor of Engineering Systems
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David Simchi-Levi is a Professor of Engineering Systems at MIT and serves as the head of the MIT Data Science Lab. He is considered one of the premier thought leaders in supply chain management and business analytics.

His Ph.D. students have accepted faculty positions in leading academic institutes including U. of California Berkeley, Carnegie Mellon U., Columbia U., Duke U., Georgia Tech, Harvard U., U. of Illinois Urbana-Champaign, U. of Michigan, Purdue U. and Virginia Tech.

Professor Simchi-Levi is the current Editor-in-Chief of *Management Science*, one of the two flagship journals of INFORMS. He served as the Editor-in-Chief for *Operations Researc*h (2006-2012), the other flagship journal of INFORMS and for *Naval Research Logistics* (2003-2005).

In 2020, he was awarded the prestigious INFORMS Impact Prize for playing a leading role in developing and disseminating a new highly impactful paradigm for the identification and mitigation of risks in global supply chains.

He is an INFORMS Fellow and MSOM Distinguished Fellow and the recipient of the 2020 INFORMS Koopman Award given to an outstanding publication in military operations research; Ford Motor Company 2015 Engineering Excellence Award; 2014 INFORMS Daniel H. Wagner Prize for Excellence in Operations Research Practice; 2014 INFORMS Revenue Management and Pricing Section Practice Award; and 2009 INFORMS Revenue Management and Pricing Section Prize.

He was the founder of LogicTools which provided software solutions and professional services for supply chain optimization. LogicTools became part of IBM in 2009. In 2012 he co-founded OPS Rules, an operations analytics consulting company. The company became part of Accenture in 2016. In 2014, he co-founded Opalytics, a cloud analytics platform company focusing on operations and supply chain decisions. The company became part of the Accenture Applied Intelligence in 2018.

This presentation will focus on the evolving applications of digitization, analytics and automation for end-to-end supply chain transformation in the retail sector which has witnessed some of the fastest digital growth.

- Technology Trends to enable Supply Chain digitalization
- Advanced Demand Analytics and its Impact on Business Performance
- Implementation: Global Retailer
- Requirements for Success

Next generation software architecture for logistics, payments, and more
Alex Pentland
Toshiba Professor
Professor of Media Arts and Sciences
Head, Human Dynamics Research Group

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Alex "Sandy" Pentland directs MIT's Connection Science initiative and the MIT Media Lab Entrepreneurship Program and is a founding member of advisory boards for the World Economic Forum, AT&T, Telefonica, United Nations, and Nissan. He previously helped create and direct MIT's Media Laboratory, the Media Lab Asia laboratories at the Indian Institutes of Technology, and Strong Hospital's Center for Future Health.

Forbes magazine declared Pentland "one of the seven most powerful data scientists in the world," along with the founders of Google and the CTO of the United States. Pentland is among the most-cited computational scientists in the world, and a pioneer in big data analytics, computational social science, organizational engineering, and wearable computing. His research has been featured in *Nature*, *Science*, the World Economic Forum, and *Harvard Business Review*, as well as being the focus of TV features including "Nova" and "Scientific American Frontiers." His most recent books are *Social Physics*, and *Trust :: Data*.

Interesting experiences include winning the DARPA 40th Anniversary of the Internet Grand Challenge, dining with British Royalty and the President of India, staging fashion shows in Paris, Tokyo, and New York, and developing a method for counting beavers from space.

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Concerns about data privacy, national localization, and security are driving dramatic change in the digital systems that support commerce and government. These new systems are distributed, all-digital, natively encrypted, continuously auditable, and feature automatic legal enforcement. Examples are the UBIN systems being fielded by Temasek and Singapore Monetary Authority, the Swiss Trust Chain fielded by SwissPost and SwissComm (which we helped design), and the Chinese national "smart city" system. Along with these commercial systems are financial systems that such as Fidelity's Akoya (which helped design), Intuit and EY's internal tax reconciliation systems, and the national digital currencies being test deployed or seriously considered by most OPEC nations. I will focus on

- what these next-gen systems are and how they change the game
- what security looks like in these new systems
- how all this changes AI and the value of data.

11:00am - 12:00pm

The Urban Experience of Retail

Reinventing the Retail Experience
Larisa Ortiz
Larisa Ortiz
Larisa Ortiz is a nationally recognized consultant, speaker, instructor and author in the field of commercial district revitalization. Since founding LOA in 2008, Larisa has developed retail and implementation strategies for over 200 districts worldwide. She serves as a Mayoral appointee to the City Planning Commission and sits on the boards of the International Downtown Association and Coro New York Leadership Center. She is the author of “Improving Tenant Mix: A Guide for Commercial District Practitioners” (ICSC, 2015), “Real Estate Redevelopment and Reuse” (IEDC, 2000) and is founder and editor of The Commercial District Advisor newsletter and blog. A Watson Fellow and Fulbright Scholar, Larisa holds a BA from Wesleyan University and a Masters in City Planning from the Massachusetts Institute of Technology (MIT).
For those in the public and nonprofit sectors, the coming months and years will see many challenges that will impact our retail-driven environments, including continued social distancing, budget shortfalls, and hybrid work from home options that will upend the connections that many once had to their central business districts. Place-based organizations, including City agencies, BIDs and Main Street organizations, simply don't have the option of walking away from the communities they serve. Even under challenging conditions, the public and nonprofit sectors must continue to find ways to help businesses and communities disproportionately impacted by the pandemic. As we consider the rapidly changing retail landscape, how should our public sector partners, whose policies and regulations have a significant impact on retail environments, respond? What role will they have in reinventing the retail experience in partnership with property and business owners?

Street Commerce: The Hidden Structure of Retail Location Patterns and Vibrant Sidewalks
Andres Sevtsuk
Associate Professor of Urban Science and Planning
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Andres Sevtsuk is an Associate Professor of Urban Science and Planning at the Department of Urban Studies and Planning, where he also leads the City Form Lab. He is the author of the recent book *Street Commerce: The Hidden Structure of Retail Location Patterns and Vibrant Sidewalks* by Penn Pres (2020). His work bridges urban design with spatial analysis and urban technology. Andres is also the author of the Urban Network Analysis toolbox, used by researchers and practitioners around the world to model pedestrian flows along city streets and to study coordinated land use and transportation development along networks.

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Street commerce has gained prominence in urban areas, where demographic shifts such as increasing numbers of single people and childless "empty nesters," along with technological innovations enabling greater flexibility of work locations and hours, have changed how people shop and dine out. Contemporary city dwellers are demanding smaller-scale stores located in public spaces that are accessible on foot or by public transit. At the same time, the emergence of online retail undermines both the dominance and viability of big-box discount businesses and drives brick and mortar stores to focus as much on the experience of shopping as on the goods and services sold. The COVID19 pandemic has further exacerbated the problems retailers already faced, but also opened up new opportunities. In light of such trends, street commerce will play an important role in twenty-first-century cities, particularly in producing far-reaching benefits for the environment and local communities.

Although street commerce is deeply intertwined with myriad contemporary urban visions and planning goals—walkability, quality of life, inclusion, equity, and economic resilience—it has rarely been the focus of systematic research and informed practice. Drawing on economic theory, urban design principles, regulatory policies, and merchant organization models, Andres Sevtsuk conceptualizes key problems and offers innovative solutions. Prof. Sevtsuk’s work on street commerce provides a range of examples from around the world to detail how different cities and communities have bolstered and reinvigorated their street commerce. According to Sevtsuk, successful street commerce can only be achieved when the private sector, urban policy makers, planners, and the public are equipped with the relevant knowledge and tools to plan and regulate it.