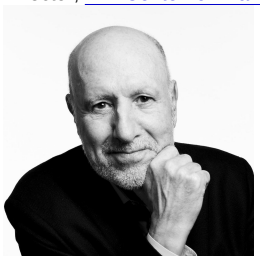
MIT Industrial Liaison Program Faculty Knowledgebase Report

A Coronavirus (COVID-19) Briefing with MIT

March 16, 2020 9:00 am - 12:00 pm

9:00am

The Impact of COVID-19 on Business and Supply Chain
Yossi Sheffi
Elisha Gray II Professor of Engineering Systems
Director, MIT Center for Transportation and Logistics



Yossi Sheffi
Elisha Gray II Professor of Engineering Systems
Director
MIT Center for Transportation and Logistics

Yossi Sheffi is an expert in systems optimization, risk analysis and supply chain management. He is author of a text book and seven award-winning management books. His latest books are: “The New Abnormal: Reshaping Business and Supply Chain Strategy Beyond Covid-19,” (October 1, 2020) and “A Shot in the Arm: How Science, Technology and Supply Chains Converged to Vaccinate the World (October 2021).

Under his leadership, MIT CTL has launched many educational, research, and industry/government outreach programs, including the MIT SCALE network involving six academic centers round the world. In 2015, CTL has launched the on-line Micromaster’s program, enrolling over 480,000 students in 196 countries.

Outside the institute, Dr. Sheffi has consulted with numerous organizations. He has also founded or co-founded five successful companies, all acquired later by large enterprises.

Dr. Sheffi has been recognized in numerous ways in academic and industry forums and won dozens of awards.

He obtained his B.Sc from the Technion in Israel in 1975, and SM and Ph.D. from MIT in 1978.

For more information visit: http://sheffi.mit.edu/

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What happens to a company when the unimaginable occurs? As the coronavirus continues to spread and the number of infections surpasses 100,000 worldwide, the MIT Center for Transportation and Logistics (MIT CTL) has taken a close look at how companies are responding and how they should be responding.

Yossi Sheffi, Professor of Engineering at MIT and Director of the MIT Center for Transportation and Logistics, has argued in *The Resilient Enterprise: Overcoming Vulnerability for Competitive Advantage* (MIT Press, 2005) that a company’s survival and prosperity depend more on what it does before such a disruption occurs than on the actions it takes as the event unfolds. Ten years later, he published *The Power of Resilience: How the Best Companies Manage the Unexpected* (MIT Press, 2015). In this webinar, Professor Sheffi will focus on the here and now. He will explore the COVID-19 disruption in the context of past disruptions and explain what companies should be doing now as the epidemic is spreading.

His perspectives have been reported widely by WSJ, Bloomberg, CNBC, and all major media outlets, as well as trade publications. He is consulting with major corporations on understanding the supply chain impacts and the range of responses.

10:00am

Who is Most at Risk? Changes to the Organization that Need to be Made Now
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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Individuals with high “centrality” are most at-risk for contracting the coronavirus. That means executives, especially ones in corporate headquarters. What should executives be doing now to organize their executives and associates to minimize the spread, with its attending work disruption, of COVID-19? How can you predict what parts of your organization will be impacted next? Drawing from his groundbreaking work Social Physics, Professor Pentland will outline what executives need to being doing now to protect their organizations from the COVID-19 pandemic.

Professor Alex 'Sandy' Pentland directs MIT Connection Science, an MIT-wide initiative, and previously helped create and direct the MIT Media Lab and the Media Lab Asia in India. He is one of the most-cited computational scientists in the world, and Forbes recently declared him one of the "7 most powerful data scientists in the world" along with Google founders and the Chief Technical Officer of the United States. He is on the Board of the UN Foundations' Global Partnership for Sustainable Development Data, co-led the World Economic Forum discussion in Davos that led to the EU privacy regulation GDPR, and was central in forging the transparency and accountability mechanisms in the UN's Sustainable Development Goals. He has received numerous awards and prizes such as the McKinsey Award from Harvard Business Review, the 40th Anniversary of the Internet from DARPA, and the Brandeis Award for work in privacy.

11:00am

COVID-19: Impact on Financial Markets
Andrew W. Lo

Charles E and Susan T Harris Professor of Finance
Director, Laboratory for Financial Engineering
MIT Sloan School of Management

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Andrew W. Lo is the Charles E. and Susan T. Harris Professor, a Professor of Finance, and the Director of the Laboratory for Financial Engineering at the MIT Sloan School of Management.

His current research spans five areas: evolutionary models of investor behavior and adaptive markets, systemic risk and financial regulation, quantitative models of financial markets, financial applications of machine-learning techniques and secure multi-party computation, and healthcare finance. Recent projects include: deriving risk aversion, loss aversion, probability matching, and other behaviors as emergent properties of evolution in stochastic environments; constructing new measures of systemic risk and comparing them across time and systemic events; applying spectral analysis to investment strategies to decompose returns into fundamental frequencies; and developing new statistical tools for predicting clinical trial outcomes, incorporating patient preferences into the drug approval process, and accelerating biomedical innovation via novel financing structures.

Lo has published extensively in academic journals (see http://alo.mit.edu) and his most recent book is Adaptive Markets: Financial Evolution at the Speed of Thought. His awards include Batterymarch, Guggenheim, and Sloan Fellowships; the Paul A. Samuelson Award; the Eugene Fama Prize; the IAFE-SunGard Financial Engineer of the Year; the Global Association of Risk Professionals Risk Manager of the Year; the Harry M. Markowitz Award; the Managed Futures Pinnacle Achievement Award; one of TIME's "100 most influential people in the world"; and awards for teaching excellence from both Wharton and MIT. His book Adaptive Markets has also received a number of awards, listed here. He is a Fellow of Academia Sinica; the American Academy of Arts and Sciences; the Econometric Society; and the Society of Financial Econometrics.

Lo is also a principal investigator at the MIT Computer Science and Artificial Intelligence Laboratory, an affiliated faculty member of the MIT Department of Electrical Engineering and Computer Science, an external faculty member of the Santa Fe Institute, and a research associate of the National Bureau of Economic Research. He is a member of the New York Federal Reserve Board's Financial Advisory Roundtable, FINRA's Economic Advisory Committee, the National Academy of Sciences Board on Mathematical Sciences and Their Applications, Beth Israel Deaconess Medical Center's Board of Overseers, and the boards of Roivant Sciences and the Whitehead Institute for Biomedical Research.

Lo holds a BA in economics from Yale University and an AM and PhD in economics from Harvard University.

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Can the actions of central banks limit the economic impact of the coronavirus? Are financial markets predicting a global recession? "Panic is beginning to hit financial markets right now," says Andrew Lo, professor of finance at MIT's Sloan School of Management: "I suspect things will get worse before they get better." He adds: "It's going to be a very challenging set of market conditions for investors to navigate through over the next few months—we all need to buckle up."

In this webinar, Professor Lo will address the changing global economy since the outbreak of the coronavirus, its impact on global financial markets, and what executives need to watch for as the coronavirus crisis plays out.

Andrew W. Lo is the Charles E. and Susan T. Harris Professor at the MIT Sloan School of Management, director of the MIT Laboratory for Financial Engineering, a principal investigator at the MIT Computer Science and Artificial Intelligence Laboratory, and an affiliated faculty member of the MIT Department of Electrical Engineering and Computer Science. He is also an external faculty member of the Santa Fe Institute and a research associate of the National Bureau of Economic Research.

He has published numerous articles in finance and economics journals (see http://alo.mit.edu), and has authored several books including Adaptive Markets: Financial Evolution at the Speed of Thought, The Econometrics of Financial Markets, A Non-Random Walk Down Wall Street, Hedge Funds: An Analytic Perspective, and The Evolution of Technical Analysis. He is currently co-editor of the Annual Review of Financial Economics and advisor to the Journal of Investment Management and the Journal of Portfolio Management.