

How to keep supply chains moving during a catastrophe

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Researchers in the University at Buffalo School of Management have developed a new framework to make supply chains more resilient during a crisis like COVID-19.

Recently published in *IEEE Engineering Management Journal*, the study analyzed how consumer panic buying and hoarding led to shortages of items like sanitizing wipes and toilet paper, and offers a new approach to existing supply chain risk management strategies that combines company-focused and big picture [supply chain management](#) techniques.

"The challenges of pandemics and other catastrophic events demand new strategies for addressing supply chain failures that can cripple an entire world," says Nallan Suresh, Ph.D., UB Distinguished Professor of operations management and strategy. "Our method provides a valuable structure for ensuring supply chain resilience, identifying risks, developing recovery tactics and continuous learning and improvement."

Their proposed framework consists of six phases, combining business continuity management standards as well as the flexibility, agility and resilience needed to cope with increasingly volatile business situations. Following a "Plan-Do-Check-Act" (PDCA) cycle, the researchers say managers should begin by examining the organizational context of the supply chain, then ensure leadership commitment, identify risk, plan for disruptions, test procedures and continuously improve by documenting lessons learned.

"Business continuity management approaches don't sufficiently address the inter-organizational processes involved in [supply chain](#) management," says Lawrence Sanders, Ph.D., professor of management science and systems. "But the risk management approaches by scholars and practitioners have been fragmented, resulting in a lack of structure and ability to cope with unexpected demand volatility. Our framework draws on the strengths of both."

The researchers say their framework would've benefitted organizations as the coronavirus pandemic hit, particularly in supplying grocery stores and medical supplies.

"The grocery industry has become too lean in recent years, operating with low inventory levels and sacrificing resilience for leanness," says Michael Braunscheidel, Ph.D., clinical assistant professor of operations management and strategy. "Meanwhile, production of medical devices and personal protective equipment relies on suppliers around the world—who all were also affected by the virus. Our approach would help identify risk in both of these situations."

More information: Nallan Suresh et al. Business Continuity Management for Supply Chains Facing Catastrophic Events, *IEEE Engineering Management Review* (2020). [DOI: 10.1109/EMR.2020.3005506](https://doi.org/10.1109/EMR.2020.3005506)

Provided by University at Buffalo

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