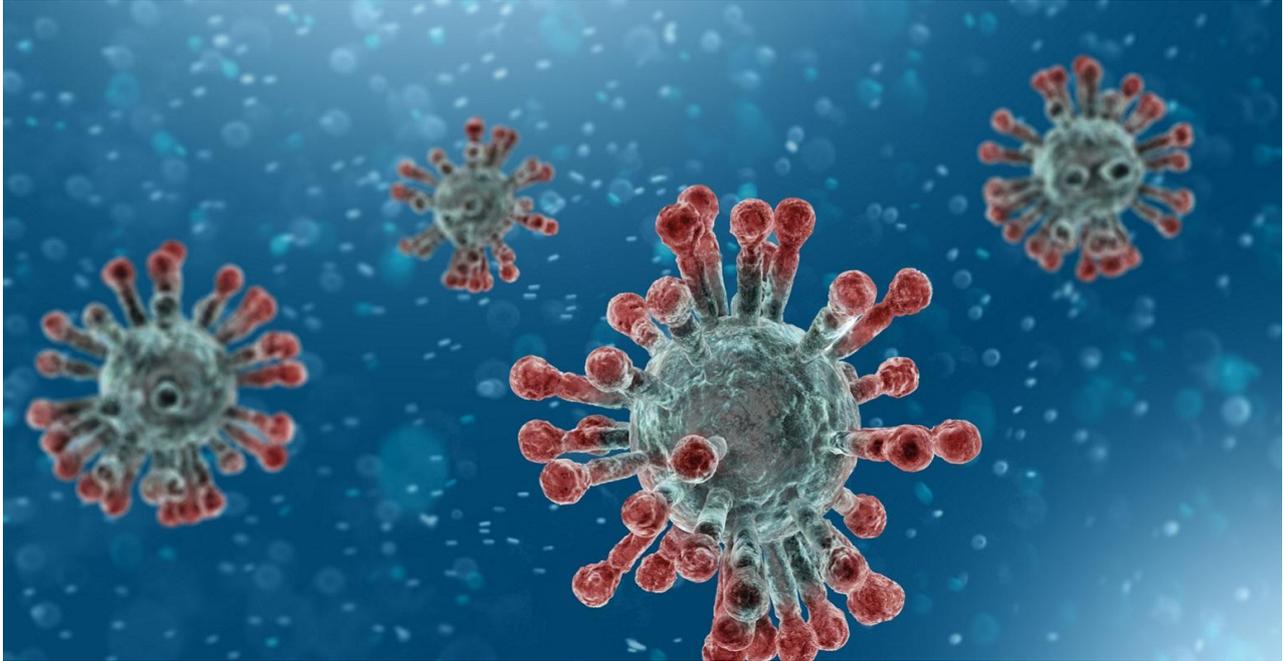


## COVID-19 Impacting Analytics-Dependent Supply Chains

[itprotoday.com/machine-learning/covid-19-impacting-analytics-dependent-supply-chains](https://itprotoday.com/machine-learning/covid-19-impacting-analytics-dependent-supply-chains)

Terri Coles

11 березня 2020 р.



News is changing quickly as COVID-19 continues to spread worldwide. The World Health Organization has declared a global health emergency, and the respiratory disease has affected more than 113,000 people in over 100 countries, with confirmed cases currently rising in the United States.

The implications of the disease for public health are clear. However, the coronavirus disease is also having a significant worldwide impact on the supply chain – and revealing some of the limitations of the analytics and algorithms that increasingly control that chain.

At Chain of Demand, a predictive analytics company based in Hong Kong, the coronavirus outbreak that began in Wuhan, China, has been close to home. The company, which uses predictive analytics and custom artificial intelligence models for retail and brand clients, has been using its team's experience with SARS modeling to model for this current virus.

The effects of the ongoing COVID-19 outbreak, which has spread to countries on every continent

but Antarctica, have been a learning experience for many firms, said Wendy Choi, customer success manager at Chain of Demand.

“A lot of companies don't have up-to-date analytics in real time despite the ability to gather data much more quickly in today's economy,” Choi said. “This outbreak has unfortunately been a wake-up call for a lot of suppliers and retailers.”

Part of the problem is that analytics rely on patterns and predictions. In a case like this, where a disease spreads quickly and is difficult to control, the normal circumstances are no longer reliable. For an industry such as automotive manufacturing, which does not hold huge inventories of its expensive components and relies on supply chain analytics to keep production moving, the effects could be significant.

“One of the biggest challenges to predictive analytics comes when there is relatively little historical data on a phenomenon,” said Bobby Napiltonia, chief revenue officer of NEXT Trucking. It’s possible to look at what a tariff might mean within a model, but there just isn’t much data on how a widespread disease outbreak could affect supply chains.

It’s clear, however, that the potential for impact is significant. The majority of the goods consumed in the United States are transported by ship at some point, and China – the country hardest hit, so far, by COVID-19 – is home to seven of the world’s 10 busiest container ports. Additionally, China’s high-tech manufacturing industry is growing quickly, with the country recently putting \$21 billion into a fund to support companies in the sector.

That means the country is the source of not only many of the everyday goods we consume, but, increasingly, of the technological components that power the machine learning models used to get those goods to us in the most efficient way possible. During a black swan event like the disease outbreak that has slowed or shut down significant portions of the region’s economy, those models no longer work as designed.

But machine learning modeling could also be part of what keeps the supply chain moving. For example, one way to understand how a COVID-19 outbreak could affect supply chains is to look at some of the widest swings in freight volume, Napiltonia said. Using data from other, expected shifts in production and shipping, some insight into how things will be affected in this unexpected situation can be gleaned.

“If we look at peak season data from the last few years, there is variability,” he said. “Assuming a surge in volume once the virus is contained, it’s possible to use the high and low ends of that data to create a working model for what the coming months might look like.”

But largely, these are uncharted waters – and some of those impacts of the coronavirus are already being seen. Forecasts for China’s high-tech sector have been cut, supply chain issues are already arising, and conferences that help push development in growing sectors like artificial intelligence and big data have been anceled or postponed.

While it’s still early to know how the current outbreak compares to others like SARS or MERS, there might be some historical trends to look at for potential supply chain implications, said Maksym Babych, a business analyst and supply chain expert.