White Paper

SUPPLY MANAGEMENT'S ROLE IN CURTAILING THE CORONAVIRUS IMPACT

The pandemic has impacted already-strained global supply chains, demanding strategic responses from executives and procurement professionals.

Presented by

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Table of Contents

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About Institute for Supply Management®

Institute for Supply Management® (ISM®) is the first and leading not-for-profit professional supply management organization worldwide. Its 47,000 members in more than 90 countries around the world manage about US$1 trillion in corporate and government supply chain procurement annually. Founded in 1915 by practitioners, ISM is committed to advancing the practice of supply management to drive value and competitive advantage for its members, contributing to a prosperous and sustainable world. ISM empowers and leads the profession through the ISM® *Report On Business*®, its highly-regarded certification and training programs, corporate services, events and the ISM Mastery Model®. The Manufacturing and Non-Manufacturing ISM® *Report On Business*® are two of the most reliable economic indicators available, providing guidance to supply management professionals, economists, analysts, and government and business leaders.

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How the Survey Was Conducted

The Institute for Supply Management® (ISM®) Research & Analytics survey on the impact of the coronavirus outbreak in China on global supply chains was conducted February 22-March 5, 2020. The sampling frame was made up of ISM members and customers, as well as supply management professionals unaffiliated with ISM. The sample was randomly drawn, with 628 useable responses in the final data set.

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Supply Management's Role in Curtailing the Coronavirus Impact

The pandemic has impacted already-strained global supply chains, demanding strategic responses from executives and procurement professionals.

By Dan Zeiger

In recent years, supply chains have been in the process of a fundamental shift, in part to strengthen their immune systems to mitigate the risk of multiple threats — unprecedented trade turbulence, as well as economic uncertainty, geopolitical events and rising labor costs.

A global health emergency has provided a severe new test: Novel coronavirus (COVID-19) has spread with such ferocity that the World Health Organization classified it as a pandemic on March 11. Since its genesis in the manufacturing hub of Wuhan, China, in December, the outbreak has resulted in more than 125,000 documented cases and nearly 5,000 deaths worldwide, quarantined workers, temporarily shuttered factories, canceled high-profile events, shaken markets and handcuffed supply management organizations at many companies.

The gravity of the situation was exemplified in a survey by Institute for Supply Management® (ISM®), which found that nearly three-fourths (72 percent) of U.S. companies have experienced supply chain disruptions due to coronavirus-related transportation restrictions, and 81 percent of organizations expect their procurement operations to be impacted by COVID-19. For some of those companies, the infection goes beyond the supply chain, as 16 percent of survey respondents report lowering annual revenue targets by an average of 5.6 percent.

In recent years, events like hurricanes, wildfires and labor disputes have "triggered companies to evaluate their supply chains," says Brian Alster, general manager, third party risk and compliance at Dun & Bradstreet, a Short Hills, New Jersey-based business data and information provider. He continues: "The coronavirus crisis is making companies aware of what supply managers have known but not felt — that is, the interconnectedness of businesses. There is a higher level of dependency on suppliers and third parties from other countries, and that dependency is highlighted with China."

Supply management organizations have dealt with previous unforeseen events that have impacted Chinese manufacturing and supply chains — including the 2003 severe acute respiratory syndrome (SARS) virus outbreak and 2009 swine flu pandemic, as well as earthquakes in 2011 and '16. However, with COVID-19's fatalities in China alone exceeding the global SARS death toll, the current pandemic's magnitude grows daily, if not hourly. And as companies are grappling with increased (on average, doubled) lead times and reductions in production capacity and staffing levels for Chinese-sourced products and components, many are relying on lessons learned and adjustments made during the trade war.

Still others report that they don't have a plan to mitigate coronavirus-related disruptions. And a recent shift from complex global supply chains to more regionalized operations — due to increased costs and risk, as well as the desire for closer customer proximity and more product customization options in the age of Amazon — will likely quicken. “We were moving in that direction for a lot of reasons,” ISM CEO Thomas W. Derry says. “The coronavirus impact will only be an accelerator.”

Key Survey Findings

As with the case at the start of the trade war in 2018, the first symptom of COVID-19 for supply management organizations is uncertainty, due mostly to a lack of information. More than half (53 percent) of the 628 respondents in ISM’s survey said their companies are having trouble getting supply chain information from China. The survey was conducted February 22-March 5, with participants from manufacturing (52 percent) and non-manufacturing (48 percent) organizations, most with revenues of less than US$10 billion.

Those results were consistent with findings in the February Manufacturing ISM® *Report On Business®*, which indicated that some companies could not gauge the coronavirus affects because of insufficient information. Some of those that could assess the impact, however, reported that the outbreak was “wreaking havoc” on their businesses — a dynamic that was reflected in ISM’s COVID-19 survey:

- Sixty-two percent of respondents reported shipment delays for Chinese-sourced goods.
- Fifty-seven percent reported longer lead times for Chinese goods from Tier-1 suppliers, with average lead times doubling compared to the end of 2019.
- Respondents indicated their companies’ Chinese factories were operating at half of their normal manufacturing capacity, with 56 percent of their typical staffing levels.
- Nearly one half (46 percent) reported delays in loading goods at Chinese ports.

One of the more telling numbers in the data: Nearly half (44 percent) of respondents reported that their companies had no plan for current supply chain disruptions. While nearly half of those respondents said they don’t expect their supply chain operations to be impacted, the rest have been hit — and are scrambling to work through disruptions, some severe. This dynamic has been felt in the health-care industry, says Karen Conway, vice president, health-care value at Global Healthcare Exchange (GHX), a health-care software and services company in Louisville, Colorado. Wuhan is a hub for active pharmaceutical ingredients (APIs) and medical supplies, exacerbating shortages.

Conway calls COVID-19 “a wake-up call” for procurement professionals, especially in health care. “It’s exposing some of the frailties in hospital supply chains,” she says. “One of the biggest has been a relative lack of demand planning or demand signals compared to other industries.”

China’s Manufacturing Chokehold

During the trade war, much focus has been on companies shifting production and sourcing operations from China — primarily to avoid tariffs, but also to minimize disruption risk by diversifying the supply base. However, China will remain a power, due to its manufacturing capabilities and status as the world’s second-largest economy, making it a lucrative market. Perhaps its biggest

Is your company experiencing delays:

	Yes	No
Moving goods within China	**48%**	**52%**
Loading goods at Chinese ports	**46%**	**54%**
Receiving orders from China	**62%**	**38%**
Getting supply chain information from China	**53%**	**47%**

supply chain asset is a "country within a country," a massive floating migrant population, says Doug Guthrie, Ph.D., professor of practice in global leadership and director of China initiatives at the Phoenix-based Thunderbird School of Global Management, an affiliate of Arizona State University.

The floating population is a manufacturing labor force that moves between facilities around China, particularly to bolster production for companies' seasonal demand spikes. To put the size of this floating population — 200 million — in perspective, Guthrie says, consider that Vietnam has become a popular sourcing a production alternative to China. "But Vietnam is a country of about 97 million people," he says. "That's about half of the floating population. And the floating population is about two-thirds of the entire U.S. population. So, when you talk about the power of Chinese manufacturing, (the floating population) is the centerpiece."

As a result, when China closed factories while implementing home lockdowns and travel restrictions in the wake of the COVID-19 outbreak, it was a double-barreled assault on manufacturing, says Guthrie. "Not only are the factories shuttered, but the entire sector depends on people who can move around the country, and they're not allowed to move," he says. "That changes the economics of the supply chain."

> "Just like an investment portfolio is spread, a supply chain is something where risk needs to be diversified. So, you need to be able to redirect business to a second or third supplier."
>
> — **THOMAS W. DERRY**
> Institute for Supply Management®

In mid-February, Chinese factories began limping back to life, with Beijing reporting in early March that 60 percent of the floating population had returned to work. Guthrie — whose research platform On Global Leadership has a three-person team in Shanghai, China — is not as optimistic as Chinese officials. That 60-percent figure, even if accurate, is a fraction of what is needed to meet seasonal-peak production for many products and components, he says: "Is the capacity sufficient? We haven't seen how it's going to play out because we're in the early stages of (the recovery). But the short answer is no."

Strains on the Supply Chain

The procurement environment was already dicey thanks to global trade turbulence, and COVID-19 has exacerbated those challenges, says Robert A. Dye, Ph.D., chief economist at Comerica Bank in Dallas. Also, the Boeing 737 Max production shutdown and oil shock sparked by a price war between Russia and Saudi Arabia have impacted supply chains — and the U.S. economy, which Dye says is at greater risk for a recession than at the beginning of the year.

Expected coronavirus impact on operations:

	None	Minimal	Moderate	Severe	Unknown
During the first quarter	20%	41%	24%	10%	5%
During the first six months of 2020	5%	30%	42%	7%	16%
For the rest of the year	6%	25%	24%	5%	40%

"Back then, these big risk events were not aligning," says Dye, who projects 2.0-percent contraction in real U.S. gross domestic product (GDP) during the second quarter, a reversal from a January forecast of 1.7-percent growth. "Supply chains were already strained. Suddenly, these multiple issues are compounding. And that's a danger zone."

In the manufacturing sector, Derry says, purchasing and supply executives are hopeful that the Chinese manufacturing and logistics sectors return to normal operations by May. Until then, companies must contend with declining inventories and shipment delays from China that will likely necessitate a production slowdown.

Trans-Pacific container shipping is mostly a one-way street, with plunging Chinese exports and delayed sailings have created an imbalance of containers, particularly refrigerated units that carry meat, fruit and other perishable cargo. That has created a battle royal for containers heading to China, with American and European exporters paying high premiums to ensure their cargo is shipped, says Simon Heaney, senior manager, container research at Drewry, the London-based global maritime research consultancy.

"For many shippers, it's pretty much, 'Take a number,'" Heaney says. "It's going to take a few weeks for this to work its way through the system (because) there's little visibility in terms of how close to full production China is."

Medical supplies, personal protective equipment (PPE), surgical gowns, surgical masks and surgical packs were commodities reported in short supply in the February Non-Manufacturing ISM® *Report On Business*®. In January, 9 million Chinese-manufactured gowns were recalled by Cardinal Health after the Dublin, Ohio-based health-care services company discovered that production of some gowns was outsourced to facilities that were not registered with the U.S. Food and Drug Administration and could not assure sterility.

The health-care supply chain is still reeling from Hurricane Maria's devastation of Puerto Rico, where 54 manufacturing facilities were located, Conway says.

Over the next six months, does your company plan to travel to China?

Not at all	52%
Emergency only	12%
Special approval needed	19%
No changes in travel	2%
Generally, we don't travel to China	14%

Combating Coronavirus

Two-thirds (67 percent) of survey respondents indicated a desire for ISM to provide supply chain risk-mitigation planning tools. While the coronavirus survey focused on China, ISM is preparing another poll on the global supply chain impact, including questions on how organizations are managing risk.

In the meantime, the most important lessons echo those advocated during the trade war, Derry says. While China will remain a global manufacturing and supply chain powerhouse, many companies have found that — trade war or not, pandemic or not — their operations in that country were overextended. "Just like an investment portfolio is spread, a supply chain is something where risk needs to be diversified," Derry says. "So, you need to be able to redirect business to a second or third supplier."

The trade war moved procurement's pendulum from cost savings and closer to supply availability, and the coronavirus impact should continue that shift, Derry says: "The lowest price doesn't help if you don't have stock."

Other recommendations:

- The Chinese have maximized virtual learning and meeting capabilities, Guthrie says, and that aptitude is spreading to the supply chain. He adds that virtual sourcing could become more prevalent as much of the floating population remains sidelined. "In China, they do virtual meetings as well as anyone in the world, and that could be the model," Guthrie says. "You don't have to be on the ground. There's a lot of (virtual) opportunities, and companies should trust their Chinese partners with that."
- Pay closer attention to inventory metrics, which can get minimized in comparison to sourcing, financial and category-management analytics. Such inventory metrics include turnover ratio, supplier delivery time, cash-to-cash cycle time and lost sales stock outs.
- Conway says health-care companies are exploring ways to conserve supplies, including re-use. "Frankly, we throw a lot of stuff away," she says. "We'll always follow guidance from the Centers for Disease Control and Prevention (CDC), but an example might be the use of a surgical mask by the same person. Does it need to be thrown away after every procedure?"

Conclusion

The tariffs were primarily a financial issue for companies and their supply management organizations. Coronavirus is a supply chain access issue, says Timothy R. Fiore, CPSM, C.P.M., Chair of the Institute for Supply Management® Manufacturing Business Survey Committee. And a lack of supply availability could have a much greater impact on the U.S. and global economies.

"Of concern for policy makers is that (COVID-19) started off as a supply shock," Derry says. "It has the potential to spill over into demand shock, which carries the highest potential (economic consequences). So, that's what everyone is watching."

The global epicenter has apparently shifted from China to Europe — particularly Italy — and cases are growing exponentially in the U.S. Infections range from nursing home residents and cruise ship passengers to Congressional staffers, professional athletes and movie stars. Forecasts suggest the situation will worsen before it gets better. While there is no consensus projection of U.S. infection and fatality rates, Anthony Fauci, director of the National Institute of Allergy and Infectious Diseases, testified in a U.S. House of Representatives hearing: "Bottom line, it's going to get worse."

Amid such sobering realities, supply management organizations have an opportunity, though execution of strategic disaster-continuity plans, to play to their strengths. Those include leveraging supplier relationships and advanced mining of data, as well as exhibiting the resilience to withstand turbulence and the agility to capitalize on market changes. Such measures can help boost the immune systems of their companies' supply chains — while serving consumers.

"This kind of situation calls on the power and capability of the supply chain," Conway says, "through supply chain visibility, investment in new technologies, collaboration across multiple parties, risk assessments and other things that many (companies) have already put in place, often because of their own experiences. So, it absolutely is an opportunity." **ISM**

Dan Zeiger is a Publications Coordinator at Institute for Supply Management®.

Does your organization have a plan for a supply disruption from China?

We have a plan, but it hasn't been activated	**25%**
We had a plan, and the situation is going almost/according to plan	**28%**
We had a plan, but it's not working out	**4%**
We didn't have a plan to mitigate current disruptions	**23%**