White Paper

COVID-19 AND SUPPLY CHAINS: INCREASING IMPACTS, DECREASING REVENUES

A second wave of research on COVID-19 impacts shows that supply management organizations face increasing severity of disruptions to sourcing, supply and talent, as well as declines in manufacturing capacity and revenue.

Presented by

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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 pandemic on global supply chains was conducted March 17-30, 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 559 usable responses in the final data set.

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COVID-19 and Supply Chains: Increasing Impacts, Decreasing Revenues

A second wave of research on COVID-19 impacts shows that supply management organizations face increasing severity of disruptions to sourcing, supply and talent, as well as declines in manufacturing capacity and revenue.

By Sue Doerfler

As the coronavirus (COVID-19) pandemic continues to spread, supply management organizations are realizing increasingly diverse and severe supply chain impacts. Nearly every organization is affected; very few are feeling no impacts.

Many of the first impacts were centered around the manufacturing and availability of Chinese goods, components and inputs — findings from an Institute for Supply Management® (ISM®) white paper, *Supply Management's Role in Curtailing the Coronavirus Outbreak*, published in March. However, the pandemic has become a global issue affecting all corners of the world — and all aspects of the supply chain — as shown by ISM's second round of research, which examined issues and impacts surrounding supply, regional disruptions, lead times, working conditions, revenue, capacity and more.

"The economic consequences of the coronavirus outbreak have shifted and become more severe in parallel with the global expansion of the pandemic," ISM CEO Thomas W. Derry says. "What began as a supply shock due to a production lockdown in China expanded to production declines in Europe and now North America. And as lockdowns have become governments' preferred response to curtail the pandemic, we've seen massive reductions in aggregate demand. We're not driving, dining out, booking travel or commuting to the office — and we've seen an historic surge in unemployment claims, particularly in the hospitality sector. As the research shows, no sector and no business is unaffected by either the supply or demand shock."

Key Findings

No longer are coronavirus impacts limited to Chinese supply chains and manufacturing, as they were after the outbreak originated in the manufacturing hub of Wuhan, China, in December. Supply management organizations are experiencing global disruptions pertaining to supply availability, manufacturing capacity, lead times and transport of goods. These global disruptions are impacting revenues, demand for goods and operations. Among other survey findings:

- The pandemic is having much greater and more far-reaching impacts than originally expected. Nearly all — 95 percent (compared to 81 percent in the first survey) — respondents report that their supply chains will be or already have been impacted by COVID-19's spread. However, many do not expect impacts to be long-lasting; 67 percent say they expect them to become minimal or non-existent during the fourth quarter of 2020.
- The outbreak affects companies' supply chains, as well as their operations and how people work. More than half of respondents say telework/remote work is one of the top three COVID-19 impacts to their organization.
- Financial impacts will be extensive. Half report that they expect their companies' annual revenue targets to be down, on average, by 22 percent, and a third expect capital expenditure spending

to decrease, on average, 27 percent. However, a majority of respondents report that demand for their products has decreased, on average, only 5 percent.
- Business continuity is being upended. One in five respondents list continuity disruption as one of the top three impacts.
- There is cautious optimism about inventories. A majority of respondents (53 percent or more, depending on region) say their organizations have or likely have sufficient inventory to support operations through the second quarter, while many are confident about inventory levels through the third quarter.

Grappling With Global Impacts

As the coronavirus pandemic touches each link of the global supply chain, supply management professionals — already grappling with trade-war and other geopolitical implications — must handle new and increasing challenges. Sixteen percent of respondents name supply chain disruption as one of the top three pandemic impacts. And severe supply chain disruptions are growing: The percentage of respondents reporting severe supply chain disruptions due to transportation restrictions has tripled (from 6 percent to 18 percent) since the first ISM survey.

By the end of March, companies had experienced severe disruptions to varying degrees in multiple regions. China — where most of the initial impacts were felt — continues to present issues for procurement professionals. U.S. companies report that transportation restrictions are most impacting supply chains in China, with nearly three-quarters of respondents claiming severe (38 percent) or moderate (34 percent) disruption.

Transportation restrictions also are affecting supply chains in Europe, with 58 percent of respondents reporting severe or moderate disruption, as well as those in South Korea and Japan, where 41 percent of respondents say disruptions are moderate or severe. North America has been least impacted by transportation restrictions: 71 percent of respondents say supply chains in Mexico and Canada have been impacted minimally or not at all, while 64 percent indicate the same for U.S. supply chains.

Longer Lead Times

Along with transportation restrictions, companies are waiting longer for deliveries of products and inputs; 7.9 percent of respondents named delayed shipments as a top-three impact.

"With current transportation restrictions, even the shipments which are ready to be shipped are getting delayed due to limited availability of vessels and the additional precautionary measures further adding to the delays," one survey respondent commented. For those experiencing longer lead times, average lead times for inputs from first-tier suppliers are at least double "normal" times. And lead times are expected to lengthen though the end of April.

As of the end of March and when compared to 2019, lead times of inputs from China have been most impacted, with 81 percent of respondents reporting disruption, while 68 percent cite longer European input lead times. Regarding North American inputs, 42 percent of respondents report expectations of longer lead times from U.S. suppliers and 32 percent from Mexican/Canadian suppliers.

Looking ahead, Asian input lead times are expected to improve through the second quarter, and companies expect lead times in all regions to improve through the third quarter. Even so, they expect lead times to be longer at the end of 2020 than at the end of 2019.

To combat supply disruptions, a third (32.4 percent) of survey respondents say they have had to find alternate suppliers, and many have turned to regionally diverse, domestic or multiple-source suppliers for goods and materials. One respondent noted that his company is looking for alternate sources in other countries, while another commented that the organization "is forced to scramble for alternative sources of supply, often from the U.S., which is increasing our costs."

Other companies have adjusted their inventories — 40 percent say they are holding more inventory than normal, while 25 percent are holding less than normal. Most companies currently believe they have or likely have enough inventory — and are relatively confident about inventory levels through the second, third and fourth quarters. However, uncertainty about inventories is highest relative to the fourth quarter. One respondent remarked that, while current supplier stock is sufficient, "if the event lasts longer than four months, production supplies will be at risk."

Capacity and Operational Issues

A reduction in global manufacturing capacity is adding to supply woes. While respondents say domestic manufacturing is operating at 79 percent of normal capacity, other regions are recording greater disruptions. Manufacturing capacity in Mexico and Canada is at 57 percent of normal levels, respondents say, while China is at 53 percent and Europe at 50 percent. Levels in Korea and Japan are even lower — 41 percent and 39 percent, respectively, of normal manufacturing capacity.

The pandemic is affecting operations in other ways. One in 10 respondents note temporary changes to their operations, citing such issues and solutions as streamlining processes, centralizing the procurement function and postponing enterprise resource planning (ERP) implementation.

Nevertheless, while operational impacts will be greatest through the second quarter — 79 percent report moderate to severe impacts — disruptions are expected to ease as the year progresses. Nearly half (44 percent) of respondents expect minimal or no impacts in the third quarter, and 67 percent say the same for the fourth quarter.

Adapting to New Ways of Working

Companies also are experiencing operational impacts closer to — and at — home. As they navigate social distancing and attempt to prevent the coronavirus spreading at their facilities and among their workers, many organizations have moved to teleworking, resulting in changes to their workforces and processes.

Respondents named teleworking/remote-working the top impact to their companies, with more than half (56.7 percent) saying they are experiencing this impact. Some respondents say they are having to improve information technology systems as a result. "(We're) acquiring and/or expanding technology investments — additional mobile devices, laptops, expanded network and gateway capabilities," one respondent said.

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>
> — **THOMAS W. DERRY**
> Institute for Supply Management®

Teleworking isn't the only workforce implication; staffing changes or shortfalls and employee absences are others. One fourth (24 percent) of respondents report that their organizations will reduce head count this quarter. Regular business travel has been suspended at most companies.

This adjustment to new working conditions is changing how organizations interact and engage with each other, their stakeholders and suppliers. Among survey respondents, 10.7 percent cite obstacles to face-to-face business as a top impact. Due to social distancing and other measures, most meetings are now virtual, a situation that comes with its own set of problems and challenges, author Apollon Fanzeres states.[1] One of the biggest: achieving active engagement among virtual participants, says Fanzeres, who has held senior executive roles at Laureate International Universities and other companies.

Derry says that long-term impacts of the pandemic "will alter virtually every aspect of how we think of work, from the restructuring of global supply chains to less office-centric work cultures enabled by technology. Business travel won't go away, but it will decline significantly as virtual meetings obviate the need for some face-to-face gatherings. I would not be surprised if the business handshake gives way to the bow, already common in much of Asia."

Declining employee productivity is another concern; 11.7 percent of respondents cite it as a top impact. "There is a widespread feeling of uncertainty and uneasiness," a respondent commented. "People are worried about their families, jobs, and the disruption to daily life. These concerns, along with people working from home, are affecting overall productivity."

Other Workforce Issues

The new rules concerning contact and social distancing are causing other staffing issues. More than half — 54 percent — say they are delaying hiring during the second quarter. Many remark that they are changing work schedules and adding more or reducing staffing.

Staffing changes are also disrupting manufacturing efficiency. "The need to produce product far outweighs manufacturing productively goals," says Timothy R. Fiore, CPSM, C.P.M., Chair of ISM's Manufacturing Business Survey Committee. "For instance, social distancing is causing manufacturing lines to slow their speed so people can keep their distance from each other, and companies are compensating with multiple shifts to achieve production goals.

"Manufacturing will be converting from 'making product efficiently while managing minimal inventory and lowest total cost of ownership (TCO) input materials' to 'returning to some level of production and sales, while managing the global supply chain disruptions in other countries and the need to keep all workforce safe.' "

Spending and the Bottom Line

With the widespread disruption caused by the pandemic, impact on revenue is top-of-mind for supply management organizations, with 13 percent of respondents citing negative impact on revenue as a top impact. Accordingly, companies are adjusting revenue targets and capital expenditure plans. "(We're conducting a) revision of 2020 goals to mitigate as much of the revenue shortfall as possible," one respondent noted.

Along with lowered annual revenue projections and reduced planned capital expenditures, most respondents reported decreased demand for their products. A notable exception — personal protective equipment, which has undergone a demand surge as hospitals, health-care facilities and the public seek masks and other items that can help prevent spread of the coronavirus. However, due to the increased demand, such products are in short supply. "Our phones haven't stopped ringing, as we produce products and services that clean and sterilize water for hospitals, pharmaceuticals, bottling and other industries that rely on clean water for operation," a respondent commented.

Risk Management and Crisis Planning

The pandemic has emphasized the importance and necessity of effective risk-mitigation plans for large-scale supply disruptions. Many respondents say they have risk-mitigation plans — but only by region. Six in 10 said they somewhat agree (31 percent) or agree (29 percent) that their organizational planning mitigated risk from the spread of coronavirus.

However, only 47 percent agree or somewhat agree their companies' plans are sufficient for a generic global disruption. "(The) company's short- and long-run sales strategies need to be reviewed, revised, replanned and readjusted (in accordance with) the new market status," one respondent commented.

Additionally, the trade war between the U.S. and China has had numerous impacts on planning as well as supply and sourcing. Only 7.6 percent of respondents say that the trade war between the U.S. and China helped their companies prepare for COVID-19 mitigation planning, while 12.1 percent say it helped them develop a more robust supply chain, 8.3 percent noted that it prompted them to move manufacturing and production out of China and 12.1 percent say they are now using non-Chinese suppliers due to tariffs.

Conclusion

The coronavirus pandemic will continue to impact supply management organizations and their companies for months to come. "The biggest impact is the dramatic drop off of new orders and production due to the near stoppage of economic activity," says Fiore, noting that the March Manufacturing ISM® *Report on Business®* showed new orders contracting at a strong level while production also dropped. "This was caused by the stay-at-home orders that are resulting in whole industry sectors being shut down for what was thought would be a short period of time. It is becoming clearer that recovery will take a much longer period of time."

Organizations have begun to move past initial coronavirus shocks. "We have adjusted our ordering patterns to deal with potential increase in demand," a respondent commented. "We also have created designated pipelines for information so there aren't multiple avenues of communication (and) have used the tools available to monitor inventory."

Others have instituted teleworking and have shifted work schedules and production lines to be more efficient and to maintain social distancing standards. "First and foremost is the safety and health of our employees," another respondent noted. "We've advised working from home where we can and have staggered schedules to allow for proper amounts of distancing while not (minimally) impacting our customers."

Despite an expected adequate inventory through the third quarter, a projected easing of operational issues by the fourth quarter and an expected improvement in lead times by the end of the year, the far-reaching impacts of the coronavirus pandemic will likely change how business is conducted — and how supply chains operate.

"No doubt, there will be permanent changes as a result of the pandemic," Derry says. "We will be better prepared — as nations build up strategic medical stockpiles and as governments learn lessons about which policy actions worked and which didn't. Government and industry will work together for rapid development of future vaccines. And I suspect that in future crises, we will make smarter distinctions on economic activity — not focusing so much on 'essential' versus 'non-essential' work and more on 'safe' versus 'unsafe' work, which would lessen the economic impact."

Fiore notes, "This unprecedented event could ultimately damage the foundations of U.S. and global economic activity to an extent not seen since the Great Depression. A slow and steady recovery is more likely on the horizon."

He believes that because the global supply chain has become less reliable, supply managers will look to nearshore. "This shift would occur even if the virus were not in the U.S. As tariffs have shown, the expense and uncertainty to maintain a global supply chain is higher now than at any time in the past," Fiore says. "The risk to company revenue far outweighs the need to access material and supplies at the lowest total cost." Mexico, for example, he says, might become a better partner due to low labor costs, a burgeoning middle class and capitalizing on existing business relationships with Mexican suppliers.

Gregory Cable, C.P.M., recommends that organizations take immediate steps to assess risk, evaluate supplier deliveries and assist suppliers when necessary, then prepare for an eventual economic comeback.[2] He states: "The result of pulling back on the supply chain is a recipe for disaster. ... Instead, smart companies should look for opportunities that will give them an advantage over competitors that continue to downsize supply management organizations."

Cable, a supply management senior consultant and principal with CGHM Consulting in Fairhope, Alabama, recommends organizations focus on updating sourcing policies, evaluating material-requirements planning, negotiating kanban processes with suppliers, and training and developing employees.

Derry notes, "If there's one overarching supply management lesson to be learned from the pandemic, it's that overemphasis on total lowest cost has been revealed to be a myopic objective. In a supply disruption, the business is worried about lost revenue and forgone sales. In other words, supply management needs to redefine itself as the critical enabler of the corporate top line, not merely a contributor to the corporate bottom line."

Fiore expects supply chain recovery due to the coronavirus pandemic to take 18 months to two years. "It will be the primary focus of risk reduction planning in the near and moderate term," he says. He adds that the longer term will likely bring higher prices for the U.S. consumer due to a high level of stimulus by the Federal Reserve and U.S. government, which would point to higher inflation in the future. "It will be an interesting two years," he says.

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[1] "Making Virtual Meetings Productive" by Apollon Fanzeres, published April 21 on *Inside Supply Management®*'s blog (ismmagazine.org/blog) and featured in ISM's e-newsletter, *Inside Supply Management® Weekly*.

[2] "How to Get Your Company in the Starting Blocks After COVID-19" by Gregory Cable, C.P.M., published April 13 on *Inside Supply Management®*'s blog and featured in *Inside Supply Management® Weekly*.