Supply Chain Management: Covid-19 (and Beyond)

Agenda

• Why we see what we see?
• Short term: what can you do?
• Long Term: where are we going?
Why Clorox Wipes Are Still So Hard to Find

Shortage isn't improving; 'within 30-45 minutes they're gone'

Clorox has increased production of disinfectant products by 40%.
PHOTO: CHRIS DELMAS/AGENCE FRANCE-PRESSE/GETTY IMAGES

Grocers Stopped Stockpiling Food. Then Came Coronavirus.

Supermarkets once kept months of inventory but drastically cut that to save on costs. Facing a shopper rush, they're now stocking all they can get.

Shelf Survey
Share of stores with shortages of select items

<table>
<thead>
<tr>
<th>Item</th>
<th>0%</th>
<th>25%</th>
<th>50%</th>
<th>75%</th>
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<tbody>
<tr>
<td>Toilet paper</td>
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<td>Chicken breasts*</td>
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<td>Boxes of pasta</td>
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<td>Eggs</td>
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<td>Rice</td>
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<td>Canned beans</td>
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<td>Bread</td>
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<td>Bottled water</td>
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<td>Bananas</td>
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<td>Frozen pizza</td>
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<td>Sliced lunch meat</td>
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<td>Fresh greens</td>
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<td>Milk</td>
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*Fresh, not frozen
Source: WSJ reporter survey of U.S. grocery stores March 15 to 17, including 01 to 56 stores, depending on item
The hospital industry, in a bid to increase profit, slashed inventory of all supplies. Rather than bulk up after the swine flu, hospitals turned to inventory-tracking software to winnow stocks of protective gear and other supplies, hoping to be able to replenish it as needed.

Manufacturers got bitten during the swine flu, ramping up production only to be left with few buyers when that crisis abated. Many mask and other device makers rebuffed later calls to build back emergency capacity, ceding a chunk of the market to overseas makers.

The U.S. government focused more on preparing for terrorism than for a pandemic. Despite the severe 2009 flu, the government lacked a permanent budget to buy protective medical gear for its Strategic National Stockpile of supplies for health emergencies.

- Total Retail
- New Car Dealers
- Furniture and Home
- Electronics
- Hardware
- Food and Beverage
- Gasoline Stations
- Clothing
- Hobby, Toy, and Games

Monthly Retail - US Census - March 2020 vs March 2019

- Total Retail
- New Car Dealers
- Furniture and Home
- Electronics
- Hardware
- Food and Beverage
- Gasoline Stations
- Clothing
- Hobby, Toy, and Games
Monthly Retail - US Census - Shock Magnitude

-60.0%  -50.0%  -40.0%  -30.0%  -20.0%  -10.0%  0.0%  10.0%  20.0%  30.0%  40.0%

-60.0%  -50.0%  -40.0%  -30.0%  -20.0%  -10.0%  0.0%  10.0%  20.0%  30.0%  40.0%

Toat Retail  New Car Dealers  Furniture and Home  Electronics  Hardware  Food and Beverage  Gasoline Stations  Clothing  Hobby, Toy, and Games

Feb. 20 vs Feb. 19  Mar. 20 vs Mar. 19

Coronavirus: Retail sales crash in April as lockdown hits shops

Online spend reaches record high

Online sales as a percentage of total retail sales

Source: Office for National Statistics

In April, the proportion of online spending on food increased from 5.7% to 9.3%, according to the ONS.

Elsewhere, off-licence sales also continued to increase, seeing a slight uptick after a 23.9% jump in March.
Retailers Canceling Apparel Orders Amid Coronavirus Torments Clothes Makers
Factories in Asia find few options in battling fashion companies making last-minute purchase changes because of falling sales

Mexico supplier problems prevent second-shift additions at GM truck plants

"I expected it to be rocky but I am often amazed at how adept supply-chain managers are at dealing with all of these things," said Kristin Dziczek, vice president of industry, labor and economics at the Ann Arbor-based Center for Automotive Research. "In my mind, never underestimate the supply-chain departments at the automakers and big suppliers because they work miracles. But they've got a lot miracle-working ahead of them."

What can you do? (before and after)

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Prevention</th>
<th>Mitigation</th>
<th>Initial response</th>
<th>Recovery</th>
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<tr>
<td>Supply Chain mapping</td>
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<td>Risk analysis: Time to Recovery (TTR), Revenue at Risk</td>
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Cisco risk identification (Anupindi, Cisco)
Your most strategic supplier may not be your most “risky” supplier (Simchi Levi, Ford)

### What can you do? (before and after)

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<tbody>
<tr>
<td>Supply Chain mapping</td>
<td>Strategic sourcing</td>
<td>Supplier diversification</td>
<td>Information assessment</td>
<td>Manage demand</td>
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<tr>
<td>Risk analysis: Time to Recovery (TTR), Revenue at Risk</td>
<td>Supplier selection (location)</td>
<td>Dual sourcing</td>
<td>Secure capacity and logistics</td>
<td>Modify product</td>
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<td>Plan excess capacity</td>
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<tr>
<td>Product design (modular architecture)</td>
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<td>Damage prevention</td>
<td>Financing options</td>
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</table>
Markets

Ford Throws Lifeline to Auto-Parts Suppliers Facing Cash Crunch

By Keith Naughton
May 21, 2020, 6:56 PM EDT

“In light of current market conditions, Ford is creating an early-payment program for our supply base,” Jennifer Flake, a company spokeswoman, said in an emailed statement. “This new voluntary program creates access to cash flow and working capital to Ford suppliers.”

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Bloomberg

Many States Fall Short of White House Reopening Criteria

By Polly Mogentz and Cecilia Sam
Updated: May 6, 2020, 5:30 PM EDT

Some States Have Started Reopening
As of May 5:
- Still in lockdown
- Lockdown ending soon
- Partial reopening
- Reopening without meeting criteria
- No lockdown in place

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### Long Term: Maturity Model

<table>
<thead>
<tr>
<th></th>
<th>Level 1: Reactive</th>
<th>Level 2: Aware</th>
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<th>Level 5: Resilient</th>
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<td>Leadership</td>
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<td>Implementation</td>
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<td>Evaluation</td>
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<td>Improvement</td>
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### Leadership

- **Level 1: Reactive**
  - No supply chain risk management leadership defined.

- **Level 2: Aware**
  - Functional managers have responsibility for leading risk management within their domain.

- **Level 3: Proactive**
  - SCRM has senior management support, but leadership is found at functional levels.

- **Level 4: Integrated**
  - SCRM has senior management leadership functionally defined and is coordinated across functions.

- **Level 5: Resilient**
  - SCRM has a senior management defined leadership role and active engagement of management is enterprise-wide.
## Long Term: Maturity Model

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</tr>
<tr>
<td><strong>Planning</strong></td>
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<tr>
<td>No supply chain mapping.</td>
<td>Informal supply chain mapping occurs.</td>
<td>Formal process for supply chain mapping within product lines.</td>
<td>Supply chain mapping completed on critical products and includes critical supply chain partners and interdependencies across product lines.</td>
<td>End to end supply chain mapping conducted across critical products on an ongoing basis, are readily available and include critical interdependencies.</td>
</tr>
<tr>
<td><strong>Implementation</strong></td>
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<td><strong>Evaluation</strong></td>
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### Implementation
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- **Level 5: Resilient**
  - SCRM has a senior management defined leadership role and active engagement of management is enterprise-wide.

### Evaluation

### Improvement
- **Level 1: Reactive**
  - No formal improvement/learning program in place.
- **Level 2: Aware**
  - Program improvements based on shortcomings identified from previous events.
- **Level 3: Proactive**
  - Program improvements based upon forward looking risk assessment at the functional unit level.
- **Level 4: Integrated**
  - Program improvements based on cross-functional unit reviews of risk treatments including critical supply chain partners.
- **Level 5: Resilient**
  - Continually monitoring for opportunities for improvement throughout the enterprise and the supply chain.
Korea Warns of Trade Pain That Will Shift Supply Chains

By Sam Kim
May 10, 2020, 4:00 PM EDT  Updated on May 10, 2020, 8:51 PM EDT

Korea may not match the kind of price competitiveness that China and other Southeast Asian nations offer, but its largely successful campaign to bring the coronavirus under control without the need to lock down the economy has renewed investors’ confidence in its ability to bounce back and provide key supplies in a crunch, he said.

“The global value chain that has formed around efficiency and costs will now reshape around resiliency and reliability,” Sung said.

The pandemic may also prompt more nations to accelerate efforts to bring factories home in a so-called re-shoring strategy, but the costs of doing that cannot be ignored, Sung said.

After The Crisis
Coronavirus Will Stretch, Not Break, Global Supply Chains

Trading networks have a remarkable ability to heal themselves and continue along their previous paths.

By David Fickling
May 16, 2020, 8:00 AM EDT

Cargo Culled
Even before coronavirus struck, global trade volumes were falling for the first time since the 2008-2009 financial crisis

Source: CPB World Trade Monitor
Note: Shows y/y change in seasonally adjusted world trade volumes index.
But maybe we are riding an already existing trend?

Made in China
China still manufactures the overwhelming majority of the world’s smartphones even as Vietnam and India gain ground.

Global smartphone manufacturing by country

Note: Prior to 2018, India's share was included in 'Others.' Source: IDC

Pew Research Center

U.S. Views of China Increasingly Negative Amid Coronavirus Outbreak

Republicans more negative than Democrats toward China, though unfavorable ratings have climbed among both parties

BY KAT DEVLIN, LAURA SILVER AND CHRISTINE HUANG

Negative views of China continue to grow in U.S.

% who say they have a ____ opinion of China

Negative views of China across many groups within U.S.

% who say they have a ____ opinion of China

TOTAL

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No college degree

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College grad+

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Ages 18-29

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Note: Don’t know responses not shown.
"U.S. Views of China Increasingly Negative Amid Coronavirus Outbreak"
Tradeoffs

• Cost efficiency vs Responsiveness
• Cost efficiency vs Resilience
• Short term ROI vs Long term ROI
• Local vs. Global

Agenda

• Why we see what we see?
• Short term: what can you do?
• Long Term: where are we going?
The pandemic has exposed catastrophic vulnerabilities and disruption to supply chains worldwide. As businesses move forward, what are the actions businesses should take to prepare for the new normal? This program will cover:

- Ways that firms can prepare to reduce their exposure to unforeseen events that may target their vulnerabilities
- New approaches to help manage supply chain risk and build resiliency in the future

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