

Recognizing & Managing Novel Risks in Your Supply Chain



Ananth Raman & Robert S. Kaplan

CRISIS MANAGEMENT FOR LEADERS:
APRIL 2020



HARVARD
BUSINESS SCHOOL

Recognizing and Managing Novel Risks in Your Supply Chain

The fourth program of HBS's series on Crisis Management for Leaders, led by professors Bob Kaplan and Ananth Raman, used multiple case studies to highlight effective practices companies have used in managing high-impact supply chain events.

During a crisis focus on process.

Previous programs have reiterated that in crisis situations, the best approach is to:

- Establish a critical incident management team charged with overseeing all aspects of the event.
- Assemble the right people who know the firm, have expertise related to the situation, and understand the company's values.
- Protect and preserve cash. In a crisis, cash is king.
- Engage in agile problem solving. Focus on learning and repeatedly iterate.

Normal supply chain processes don't work in a crisis.

In the last few decades, companies have become better at managing traditional supply chain risks, which are high-likelihood, low-impact events, such as defects or delayed delivery. The COVID-19 crisis is different: it is an unexpected, low-likelihood event with huge impact.

Nokia's "Chief Worry Officer" constantly monitors for high-consequence events.

In 2000, a small fire occurred at a Philips semiconductor plant in New Mexico. The plant manager notified customers, including Nokia and Ericsson, of this minor disruption, informing them the plant would be operating in one week.

Ericsson's purchasing manager viewed it as a normal disruption.

Nokia's manager was also not overly concerned, but communicated this information to others, based on the principle: "We encourage bad news to travel fast." Receiving this news was the SVP of Operations, Logistics, and Sourcing—who has the unofficial title of "Chief Worry Officer." He put these components on a special watch list.

Two weeks later, Philips realized it would take several more weeks to restart production. Nokia quickly saw this as a serious problem and assembled a team to redesign their chips and find alternate sources of supply. Nokia's Chief Worry Officer contacted the CEO who immediately met with Philips' CEO. Philips committed to partner with Nokia and "operate as one." Nokia's production was largely unaffected.

MAIN IDEAS

- Traditional supply chain risk-management practices are not appropriate in a crisis.
- Case studies show effective approaches that companies such as Nokia, Nissan, Ford, and Swissgrid have used to identify and mitigate novel supply chain risks.
- Important lessons: learn where your supply chain is most vulnerable and consider a "Chief Worry Officer" to scan for low-likelihood, high-consequence events.

"The set of processes we use for normal operations within our supply chains is not going to work in this environment."

Bob Kaplan

Meanwhile, Ericsson didn't have a plan B and couldn't get components for months. As a result, Ericsson lost \$400 million in revenue and one year later retreated from this market.

Nissan's disaster preparation and response led to a faster recovery than competitors.

On March 11, 2011, a powerful earthquake struck off the coast of Japan, causing a tsunami and a nuclear meltdown at Fukushima. This caused a massive humanitarian and economic crisis in Japan. Nissan's supply chain was battered. Yet Nissan quickly recovered and over the rest of 2011 outperformed its competitors. Some of Nissan's key actions included:

- Immediately forming a Global Disaster Control Headquarters, led by the COO, which launched 15 minutes after the earthquake. This team had a plan in place to turn to.
- Allocating global capacity to support the highest-margin goods.

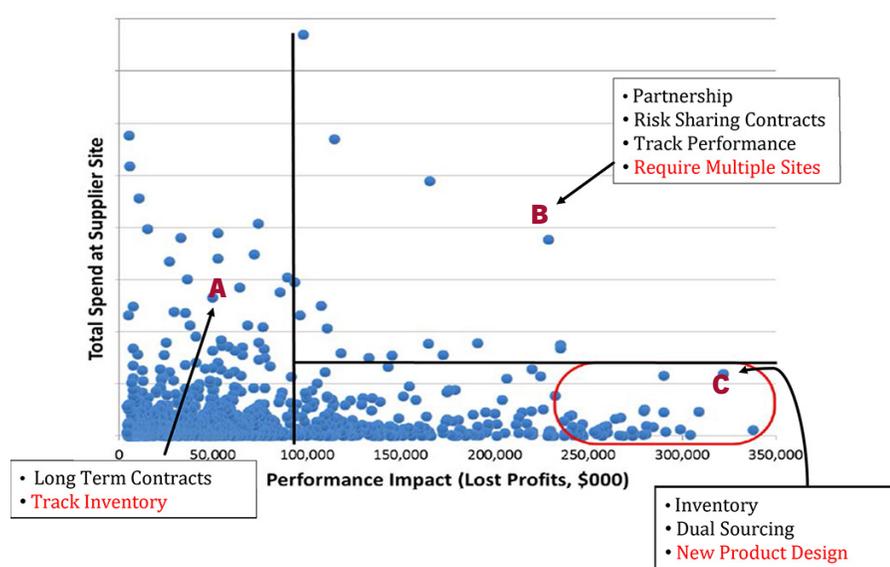
Nissan's actions are relevant in the COVID-19 crisis: immediately form a team to solve problems holistically, have a plan on the shelf, and allocate (and repeatedly reallocate) capacity to the highest-margin offerings.

Ford identifies where its supply chain is most vulnerable and mitigates these risks.

Ford's supply chain is extremely complex with over 50 manufacturing plants and 10 tiers of suppliers. This includes 1,400 Tier 1 suppliers that have 4,400 manufacturing sites and provide 55,000 parts.

Ford found that problems at about 2,800 of its 4,400 supplier sites would have no impact on its performance, but about 400 sites would have a very high impact. Ford further analyzed each site based on the performance impact (in lost profits to Ford) and Ford's spend at that site.

Figure 1: Segmentation of Ford's suppliers' sites by performance impact and spend



“What seemed like a routine event contributed to a complete exit [by Ericsson] from a major line of business.”

Fritz Foley

“Maximize the revenue of what you can ship, given that you have significant impacts to your supply chain.”

Mike Pegler (MBA 1996), principal, PricewaterhouseCoopers

“I can't stress enough about having plans A, B, C, and D.”

Gloria Lara (MBA 1983), principal, LBR Group

This analysis highlighted Ford’s vulnerability at each site and actions to mitigate the risks.

- A. **Low-performance impact, any spend.** At these sites a problem would have minimal impact on Ford’s profits. The strategy is to have long-term contracts and track inventory.
- B. **High-performance impact, high spend.** These are important sites, where Ford spends a great deal and a problem would significantly impact profits. With these suppliers it is important to form partnerships and require multiple sites.
- C. **High-performance impact, low spend.** Ford doesn’t spend a great deal at these sites but a problem could have a significant impact on Ford’s profits. To minimize risk, it is important to maintain high inventory and have dual sourcing.

Swissgrid uses processes and technology for greater visibility about risks.

The Swiss national electricity distribution company, Swissgrid, uses several processes to identify and manage emerging (novel) risks. One tool is Risktalk, an app on every employee’s smartphone to communicate about potential risks. Swissgrid’s risk function monitors and triages messages 24/7.

In addition, Swissgrid’s “All Seeing Eye” system collects and monitors external data from throughout Switzerland that has the potential to impact the company. These tools create a risk culture and increase organization-wide visibility about risks.

Airbus’s experience highlights the importance of trust and confidence.

In the mid-2000s, Airbus was launching a new plane and stated plans to deliver 10 in 2006. In 2005, the company updated its 2006 target to just two planes—causing minimal impact on the company’s stock price.

But in June 2006, Airbus announced it would only deliver one plane. That announcement tanked the stock price. The reason: investors lost confidence in management’s credibility.

This case study is relevant because in any supply chain, trust and credibility are essential — during normal times, and especially during a crisis. Companies are at risk that the COVID-19 crisis will lead to a crisis in confidence, with negative long-term implications.

Two leadership principles for building trust in a crisis (the Stockdale Paradox) are to be brutally honest about the situation and provide a rational basis for hope.

Additional Resources

View the complete program lineup for [Crisis Management for Leaders](#)

Download the [slides](#) from this program

Download the [video](#) of this program

“It is my view that the COVID crisis will lead to a confidence crisis in many supply chains.”

Ananth Raman