

Global Supply Chain Risks: The Amazon Rainforest Fire Example



Fires. Earthquakes. Political upheaval. War. In a world where global supply chain risk comes in a range of potentially disastrous forms, building and maintaining a successful business means anticipating and addressing disruptions both close to home and beyond the horizon.

In such an unpredictable and ever-changing environment, it can be challenging to create an effective and responsive supply chain risk management strategy.

But by educating themselves on the biggest risks and leveraging responsible strategic sourcing alongside the latest technology, companies can intelligently and effectively reduce their global supply chain risk.

Global Supply Chain Risks: An Overview

From natural disasters to cyber attacks, the risks that impact global supply chains are numerous, fast, and potentially fatal to your company's competitive advantage, bottom line, or even its existence.

In order to build a winning supply chain strategy that anticipates and accommodates supply chain disruptions, it's crucial to know the most common

sources of risk in the global supply chain.

While specific disasters and disruptions vary, the most egregious potential supply risks tend to fall under six broad categories:

- **Financial Data Risk:** While financial risk is at the core of all supply chains, lack of transparency with regard to the financial health of suppliers located abroad can leave companies reeling if those suppliers declare a “surprise” bankruptcy or simply vanish.
- **Labor Risk:** Connected closely with political volatility, labor is at the heart of every supply chain. If labor laws change, or a supplier experiences a shortfall or strike, the “ripple effect” of cascading cross-dependencies can affect suppliers across the entire supplier network. In addition, the discovery of slavery, human trafficking, and other labor abuses perpetrated by malicious companies is not only horrifying in itself, but can create devastating fallout for any company—knowingly or unknowingly—relied on the criminal vendors as part of their supply network.
- **Climate Change and Natural Disasters:** Like war, natural disasters impact all areas of life, and business, simultaneously, affecting the availability of raw material, labor, and transportation. Similarly, extreme weather conditions due to climate change can create sudden disaster with an unanticipated tornado or wildfire, or completely destroy a supply network by altering the availability of key resources through sea level changes, altered seasonal weather patterns, or the destruction of habitat for plants and animals who provide key materials.
- **Political Volatility and War:** Whether internal or external, political conflict can wreak havoc on multiple areas of the supply chain simultaneously, halting production, limiting access to raw materials, and decimating available labor pools. Examples include terrorist acts; bans, boycotts, embargos, tariff disputes, and other trade issues; changes to key international trade agreements such as Brexit or NAFTA; open war between countries containing key suppliers; economic turmoil/collapse, etc.
- **Cyber Crimes/Cyber Attacks:** While the Internet has been lauded as the most important transformative element in human history since at least the 1990s, our brave new world of interconnected devices and data streams

has also given rise to a new type of risk: cyber crime. From data theft to denial of service attacks to dangerous real-world assaults on devices connected to The Internet of Things, cyber attacks can cost companies millions through direct theft of assets as well as delays and damage to profitability, competitive advantage, and public image created by data breaches.

Some supply chain disruptions may involve risks from a single category; others may touch on multiple categories, or even or all five.

When developing risk management strategies that include contingencies for complex supply chains and optimize decision making for global trade, it helps to look at a recent, and devastating, example: The Amazon Rainforest Fires of 2019.

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The Amazon Rainforest Fires: A Global Supply Chain Disaster

As science, governments, and industry continue to grapple with the short and long-term effects of climate change, communities and corporations alike find themselves struggling to survive the effects of unprecedented natural disasters.

One such calamity, the Amazon Rainforest Fires, absolutely qualifies as a natural disaster. But the source of these infernos, and the complex web of interconnected sociopolitical fallout in their wake, have more human origins.

Fire has been used as a tool to clear and curb jungle growth in the Amazon since time immemorial.

But the same practice that promotes new growth and supports small-scale agriculture for communities can quickly become an ecosystem-ravaging blight when taken to the macro scale for industrial use.

Farming, mining, ranching, and other industrial activities—combined with, and often competing against, pharmaceutical interests looking to turn the rare plants and animals of the Amazon into the next wonder drug, food additive, or cosmetic enhancer—have created a climate where deforestation in some parts of the Amazon amounts to hundreds of thousands of acres each year.

Political policies that encourage such exploitation help to fan the flames, both literally and figuratively.

As a result, the fires of 2019, while disastrous on their own, are only a small part of the overall destruction of the Amazon as a whole.

Even if the fires were to be extinguished and deforestation efforts abandoned today, scientists estimate it would take centuries for the Amazon to recover its biodiversity.

The impact to companies relying on raw materials and other goods from the Amazon region is staggering. Industries as varied as cosmetics, pharmaceuticals, meat, timber, oil, tourism, and agriculture have all taken serious blows due to the devastation.

Viewed through the lens of supply chain risks, the Amazon fires can be seen as a modern-day exemplar of a “perfect storm” for global supply chain risk.

Consider just a few of the ways in which the fires impact global trade:

- **Raw material loss:** Meat suppliers will pay more for cattle as blaze-prone cattle pastures spread the destruction. Companies that rely on Amazonian timber—including purpleheart, mahogany, teak, ipê and jatoba—for everything from paper to expensive musical instruments will have to seek new sources, find substitutions, or risk going without. Cosmetic and pharmaceutical manufacturers will likely pay more for both hard-to-find ingredients such as murumuru (an emollient from palm trees) and the more common ones such as periwinkle (from which Vincristine, an anti-cancer drug, is extracted), raising prices for consumers.

The loss of raw materials will be especially keen for pharmaceutical companies, who rely on the 80,000 species of plants in the Amazon to provide more than a quarter of modern pharmacological plant-based ingredients.

- **Transportation challenges:** As areas known to contain vital resources are damaged or destroyed, transportation and production costs may increase as replacements have to be researched and sourced from more remote, difficult-to-access areas. Companies with thin margins may find their competitive advantage evaporating as costs climb and materials and labor become more expensive.
- **Human rights violations:** Companies doing business with suppliers in the Amazon region may find themselves unknowingly supporting the displacement and exploitation of indigenous communities pushed out of their ancestral homelands by the fires. In addition, it may be difficult to obtain up-to-date information on a company's compliance with international labor laws and standards.
- **Environmental impact:** The Amazon not only provides essential biodiversity to the planet, but acts as a massive carbon sink that helps keep our atmosphere healthy. In an age of growing environmental conscientiousness, doing business with suppliers that actively destroy such a critical resource can create or exacerbate reputational damage. Also, as the fires themselves are directly contributing to climate change through destruction of green space and the addition of carbon to the atmosphere, they increase the risk of extreme weather events elsewhere, adding to the total overall supply risk.
- **Political and Trade Fallout:** As with many other subjects in the global arena, the politicization of the Amazon fires has the potential to damage profitability, reputation, and competitive advantage. The fire-based conflict between the governments of Brazil and the European Union, for example, could lead to the collapse of essential trade deals or the addition of unfavorable tariffs. This could limit access to raw materials for companies interested in the Amazon and hurt companies in Brazil who rely on exports to succeed.

In addition, consumers may shift their loyalties if they disagree with a given company's association with either side of the disagreement. As a result, some brands, such as Swedish fashion label H&M and United States footwear giant VF Corp., are hedging their bets by banning Brazilian leather from their supply chain in response to a perceived failure on the part of that country's government to address the fires and the crises they've created.

Keys to Reducing Global Supply Chain Risk

- **Invest in Procurement Software.** Supplier relationship management and supply chain development tools, supported by in-depth, on-demand access to all your data as well as process automation and artificial intelligence, makes it easy to evaluate and optimize your supply chain. Procurement solutions can also be used to create a closed environment to curb rogue spend and fraud from unauthorized purchases with one-off vendors who may not comply with your company's high standards—or the law.
- **Develop, and Leverage, Business Intelligence.** Data is useless unless it's analyzed and put to use in strategy, planning, and decision making. Gaining transparency over your supply chain is the first step; the insights gleaned from spend data, supplier performance, and process improvement initiatives can guide you to further refine your supply chain in strategic ways, such as:
 - Optimal capacity from key and contingency suppliers for essential goods, and optimal pricing for less essential commodity goods and services.
 - Strategic redundancies where appropriate to support contingencies for natural disasters, political unrest, trade issues, etc.
 - Strategies for optimal flexibility and responsiveness through relationship development with key suppliers for optimal pricing and terms and a secondary supply network of contingency-based vendors who can meet demand in emergencies.
 - Identify and eliminate potentially problematic, non-compliant vendors from your supply chain before the risk they create can spiral outward to damage your company's reputation, profits, or production.
- **Invest in the Best Available Cyber Security.** Data breaches, denial-of-service-attacks, and industrial espionage don't just cost money—they can create irreparable damage in the form of lost trust, lawsuits, and competitive advantage. Partner only with suppliers who share your commitment to securing intellectual property, customer information, and

transactional data.

Protect Your Supply Chain from Disastrous Risk

Every supply chain network has risk, and to some extent, all supply chains are now global, from the smallest local market to the globe-spanning supply chains of multinational corporations.

But by understanding the potential risks to your supply chain and developing a supply chain risk management strategies that address them, you can help protect your company's success at home and abroad.

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