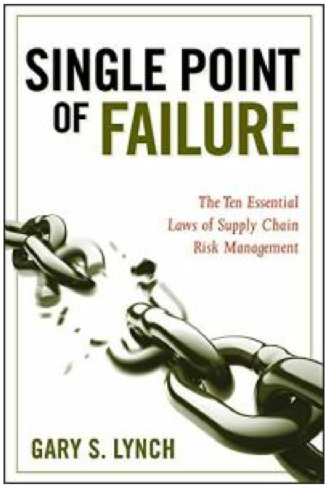

Book Single Point of Failure

The Ten Essential Laws of Supply Chain Risk Management

Gary S. Lynch
Wiley, 2009

Recommendation

The captain of the *Titanic* ignored at least five warnings that unusual conditions in the Gulf Stream made it dangerous to steam at high speeds through the North Atlantic – if only he had paid attention. CEOs usually don't seek or receive advance alerts of the looming icebergs that could affect their supply chains, the interconnected links that enable companies to move raw materials to production facilities and thence to customers. Now, you can be prepared, thanks to supply chain risk management expert Gary S. Lynch, who details the 10 best ways to manage and mitigate supply chain risk. *BooksInShort* recommends his insights – despite a peppering of jargon – to executives handling all aspects of corporate life, including risk, manufacturing, compliance, operations, logistics, outsourcing, procurement and security.

Take-Aways

- Supply chains are a series of interconnected links. If one link breaks, the chain fails.
- If something can go wrong in the supply chain, it will.
- Supply chain risk management requires measuring and assessing your supply lines' exposure to uncertainty.
- Having an effective supply chain requires collaboration by all the parties involved.
- Supply chain risks mutate with every process change.
- Organizations do not set risk priorities; external stakeholders do.
- To mitigate likely risks, research and understand your suppliers' processes and their business models.
- Senior executives must get involved with and support companywide risk mitigation.
- Assume that you lack proper supply chain insurance and that what you have will not cover all losses.
- Accept that, when push comes to shove, people will always pursue their self-interests.

Summary

"The Laws of the Laws"

All companies, no matter their industries, products or locations, are members of complex, convoluted and interconnected supply chains. Any unexpected event – a labor strike, a hurricane, a product recall, a commodities price hike, a power failure, a biochemical disaster, a political revolution – that harms any link of a supply chain can have a devastating effect on all the other links, including those that most people would never imagine are connected.

> "Risk doesn't exist at a distant port or in a warehouse in another country; it is everywhere."

To illustrate, consider this scenario: As a result of a large decrease in housing construction, a shortage of sawdust develops into "a single point of failure." Prices for sawdust skyrocket from $25 per ton to more than $100 per ton. This affects farmers who use sawdust as bedding for their animals. Particleboard manufacturers suffer because sawdust is one of their vital raw materials. Other affected industries include wineries, auto manufacturers and oil-drilling rig operators – all of whom face harm because of a shortfall in sawdust, a very mundane material. Given that, consider the impact of changes in crucial commodities: for example, the global economic losses when oil prices rise. Or note what happened when officials had to close Ontario's Chalk River nuclear reactor for an extended period in 2007. Chalk River is the world's only source of technetium-99, an isotope medical technicians use in cancer and heart disease tests. Labs can't store technetium-99 because it decays rapidly.

During the closure, no one could use the diagnostic technique that requires this isotope, a test US doctors usually order 20 million times annually.

> "The identification, quantification and mitigation of risks is a detailed, tedious and unrewarded exercise."

In today's tightly connected global economy, supply chains are to companies as the famous six degrees of separation are to people. If a major upstream player incurs a problem, tens of thousands of downstream players may – and probably will – suffer. Risk occurs in the presence of both "uncertainty" and "exposure." To limit your company's vulnerability to risk and to mitigate its effects, institute the Laws of the Laws, the four axioms that compose the bedrock of supply chain risk management:

1. **"Everyone, without exception, is part of a supply chain"** – Every firm is connected to every other firm. What affects one affects all.
2. **"No risk strategy is a substitute for bad decisions and a lack of risk consciousness"** – Poor decisions cause negative effects up and down supply chains. Companies that lack risk consciousness suffer the most.
3. **"It's all in the details"** – Broad overviews are no help when your supply chain is breaking down. You must focus on the minutiae to understand your problem.
4. **"People always operate from self-interest"** – No link in the supply chain will cover another link's risk – that is, absorb a cost – if it can avoid that situation.

10 Laws of Supply Chain Risk

These laws of risk apply universally to all supply chains:

1. "If You Don't Manage and Lead Change, You Have to Surrender to It"

Any link in any supply chain can break at any time. When a rupture occurs, ask if it is a single failed link or a systemic problem. Did someone purposely fracture the link, or was it an accident? Who is responsible? What is the impact at every other link on that chain? Prepare before your supply chain breaks by accepting that, sooner or later, something bad will happen somewhere, usually at the worst possible time. Visualize triggers or likely choke points that might cause problems. Any complication that develops will be a moving target. "Expect the unexpected."

2. "The Paradigm Should Destroy the Parasite"

Risk is a parasite that infects your supply chain. Prioritize which risks your organization will focus on mitigating. However, your external stakeholders – customers, the media, government regulatory agencies, lenders, and so on – are ultimately responsible for determining your "risk paradigm" or supply chain risk priorities. These external stakeholders can unexpectedly undo all your risk management. For example, a change in regulation may force you to alter every aspect of your supply chain and reporting.

> "Manufacturing has become the most overlooked aspect of the supply chain."

To minimize existing risks, organizational leaders need to learn their supply chain's exposure paradigms – that is, to imagine everything that might go wrong and how each failure could trigger another. Most companies apply limited capital and resources to deal with supply chain risk, but you will be better off if you plan your risk investment wisely. Collaborate with all parties in your supply chain. Risks are fluid, so your risk paradigm can quickly shift. Study all possible likely negative alternatives and be ready.

3. "Manage Your Business DNA in a Petri Dish of Evolving Risk"

To manage supply chain risk, detect and evaluate risks that might bring down your organization. You must understand your company's essential nature, or DNA, which requires knowing where your supply chain begins and ends.

> "A widespread assumption…is that second- and third-tier manufacturers somehow magically adhere to mandated risk management practices. The simple truth: They do not."

Use the DNA acronym – "define, narrow, act" – to understand your supply chain and identify your "business value footprint," that is, "the complete footprint of your operation" or your "organizational genome." First, ask yourself, "Where does my supply chain start and stop, and what do I influence?" These questions are not easy to answer because supply chains are complex. Begin by determining which of your contributors is the most vital. Second, rank your risk priorities, including where interdependence with suppliers, employees, manufacturers or customers makes you most vulnerable. And third, act to "minimize or mitigate the risks."

4. "In Supply Chain Risk Management, Demand Trumps Supply"

If demand suddenly expands significantly, the supply chain's configuration must change. This can generate numerous negative downstream effects. Develop the clearest possible picture of your "customer and demand, market trends (local and global) and competition, distribution and sales channels," and "the external environment." Research your company's supply side. Speak with industry analysts and your marketing professionals and salespeople. As you prioritize your supply chain risk management efforts, focus on the needs of your customers.

5. "Never Set Up Your Suppliers for Failure"

If your company places responsibility for supply chain risk management on its suppliers and refuses to assume a portion of accountability, you are setting your suppliers up to fail. For example, if your organization wants to cut costs, you might insist that your upstream suppliers reduce their billings by a set percentage regardless of their already tight margins. You know in advance that they will make up for this new pricing pressure by cutting costs. Their cost cuts may generate quality or service problems down the road. In theory, those issues would not be your problems because they will immediately affect your suppliers. But your suppliers' problems will always turn up in your supply chain. If you force suppliers into more difficult credit situations, you will provoke unforeseen consequences for your company. When you work with supply chain operations, know their businesses and their risk tolerance. Learn everything you can about your primary suppliers and the firms that supply them.

6. “Managing Production Risk Is a Dirty Job”

Consider all that can go wrong with production. Even a partial list of internal failures is daunting: “labor strikes, workplace violence, cyber attacks…machinery failure, obsolete technology [and] sabotage.” External failures can be just as destructive. For example, Dow Chemical’s plant in Bhopal, India, accidentally spewed 42 tons of toxic gas, killing an estimated 20,000 people.

> “Many pharmaceutical executives may not even realize that their suppliers consist of hundreds of extremely small, poor and uncontrolled pig farms in rural third-world regions.”

The “multiplier effect” means that risks once contained in a single location are now spread across thousands of operations. For instance, Nike works with more than 600 contract manufacturers, so Nike’s management of production risks is 600 times more complex than that of a firm that deals with only one manufacturer. Unfortunately, most companies pay little attention to their supply chain’s manufacturing component, the source of most supply chain malfunctions.

7. “Managing the Parts Does Not Equal Managing the Whole”

The volatility of the logistical movement of goods is a primary reason supply chain risk management is so difficult. When goods are in transit, anything can go wrong at any time. Risks include shipping delays, cargo theft, spoilage, customs problems, and the like. Managing the movement of goods within your supply chain involves coordinating an array of activities, including material handling, transport and warehousing.

> “If your organization does not know about risks, visible or not, then surprise is inevitable.”

Considering all that can go wrong and knowing that solutions involve so many pressure points, many suppliers don’t know how to mitigate logistical risk. Among other curative steps, your suppliers could consider shortening the supply chain – for instance, by deglobalizing. They might place their distribution centers closer to retail outlets or make smaller, more frequent shipments.

8. “If Supply Chain Risk Management Isn’t Part of the Solution, It Will Become the Problem”

To plan, develop and institute a comprehensive, effective strategy to mitigate supply chain risk, your corporate culture must develop a companywide “risk philosophy.” Senior executives should approve your risk mitigation efforts and actively support them. A single high-ranking executive should assume overall responsibility for building and leading a systematic, resilient risk management program that incorporates monitoring and measurement. Align your risk mitigation activities with other programming, such as your marketing activities.

> “Risk is a parasite that resides in every process.”

Because supply chain risk is parasitical and insidious, there is no way you can eliminate it completely. However, to deal with this risk in a meaningful way, you must consider its potential manifestations in advance and involve your entire organization in preparing for contingencies.

9. “The Best Policy Is Knowing What’s in Your Policy”

Risk insurance is important for any supply chain operator, but it is not a panacea. Often the insurance available offers insufficient protection, and the coverage does not adequately compensate for losses you might incur.

> “If one link fails – all links fail.”

Many companies mistakenly assume that their insurance policies cover specific types of loss. In fact, supply chain risk insurance coverage is growing increasingly more restrictive, while premium costs continually grow. Nevertheless, your organization must carry as comprehensive an insurance package as it can afford. Otherwise, a catastrophic loss can wipe out your business. Spread “diversification of risk exposure” among your supply chain partners.

10. “Manage the Risk as You Manage Your Own”

You – and your family or loved ones – operate every day within your own personal supply chain; use these supply chain risk principles to reduce your personal emergency risks. Visualize the risks that can upend your life and develop advance plans to deal with them.

> “If you have seen one supply chain…you’ve seen one supply chain.” (Richard Steinke, executive director, Ports of Long Beach, California)

Consider links that could break, and what you can do to protect yourself and your family in case of disaster. Ensure that if calamity strikes, you will have adequate “food, energy and shelter.” Try to make good decisions, because bad choices actualize risk. Accept that, when push comes to shove, people will always do what is in their own self-interest, so don’t expect others to cover your personal risks or losses. Plan to cover them yourself.

Time to Get Real

Many senior executives prefer not to think about the baffling subject of supply chain risk management. You cannot assume that you are safe because you luckily slogged through a risk event in the past. Another risk event lies just around the corner. If you aren’t ready, a supply chain break could put you out of business tomorrow. Take the necessary steps to prepare.

About the Author

Gary S. Lynch, author of *At Your Own Risk*, leads Marsh Risk Consulting's Supply Chain Risk Management Practice and directs its Global Pandemic Response Center.