

# Supply Chain Resilience

## 9 Things to Consider and How to Be Successful



**SUPPLY CHAIN**



# Introduction

The COVID-19 pandemic has been responsible for the biggest contraction in U.S. GDP since recording began in 1947. In the first two quarters of 2020, the total contraction, year to date, was 37.7 % [\(i\)](#). And while economic recovery in the third quarter is promising, Goldman Sachs anticipates that, for the full year, the economy will still shrink by 4.6% [\(ii\)](#).

The events of 2020 more than ever highlight the urgency of developing and maintaining supply chain resilience in difficult times. So, what can you do to make sure your company stays resilient?

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# What Is Supply Chain Resilience?



Resilience can be described as the ability of a person, system or organization to recover readily when subject to deformation, force or change. In terms of the supply chain, it can be defined as an ability to adapt readily to change and disruption, as well as manage supply chain risk effectively. The important part to understand about supply chain resilience is that it means something different for different companies. The key is to balance the trade-offs of various resiliency characteristics and make your strategy work for you.

Some characteristics of a resilient system include:

- Ability to bounce back
- Reserve strength
- Flexibility
- An ability to adapt
- Risk mitigation

It's worth noting that some of the characteristics of a resilient system contradict lean philosophies, such as the Toyota Production System, which focuses on Just-in-Time manufacture and the elimination of excess stock [\[1\]](#). Organizations who are used to this sort of method have already begun shifting their mindset, looking at various demand scenarios further out, and planning their networks accordingly.

Again, it's all about understanding what a resilient system means to your particular organization, and balancing the trade-offs across the often contradictory short-, mid- and long-term objectives.

# Influence of COVID-19 on Supply Chain Resilience Strategies

In the ruthless quest for efficiency and lowest cost, many organizations appear to have completely lost sight of what supply chain resilience means.

Organizations have developed complex, multi-level, octopus-like global supply chains. To their credit, these complex supply chains often perform admirably. But their Achilles heel is their inability to adapt to sudden change. For example, the adoption of lowest-cost single-sourcing policies means supply chains are especially vulnerable to disruption, whether from COVID, weather or natural disaster.

Specific aspects of the COVID-19 pandemic have exacerbated the problem enormously. These include:

- ❑ The phased global spread of the virus
- ❑ Its highly infectious nature requiring extreme preventive measures
- ❑ A relatively high death rate
- ❑ A risk of second and third waves

This was something hardly any supply chain resilience model predicted, or if it was, this scenario was discarded as too expensive. It's no surprise that so many supply chain resilience strategies failed.

The unfortunate reality is that COVID-19 is here to stay, certainly at least until an effective vaccine is developed together with more effective treatment protocols that reduce fatalities [\[iv\]](#).

Looking forward, there's an urgent need to focus on supply chain resilience. This means adopting more resilient strategies and accepting a trade-off between resilience and cost.

# 9 Post-COVID-19 Supply Chain Resilience Strategies You Need to Consider

After nearly nine months, the world is still grappling with this pandemic. While some countries that experienced high infection rates early on have been able to resume some form of normalcy, others, particularly the U.S., Mexico, Brazil and India, continue to grapple with high infection rates and economic disruption. And who knows what the 2020/2021 winter season will bring. [\[vi\]](#)

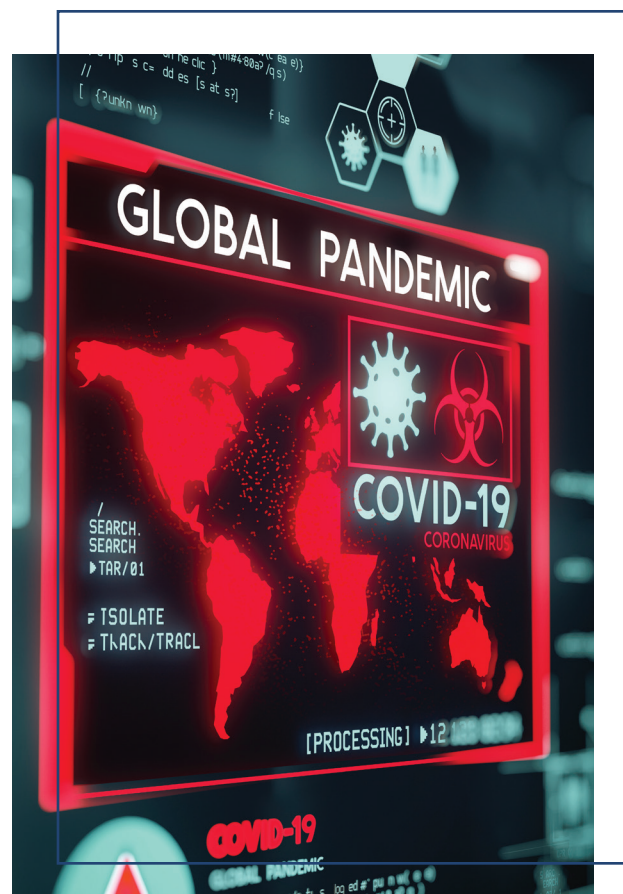
If your company is reliant on global trade, you'll need a new take on supply chain resilience strategies.

Consider these nine supply chain resilience tips.

## 1 Plan for a Long Haul

It's imperative not to make the mistake of assuming everything will return to normal any time soon. In fact, it's vital to assume that the impact of COVID-19 will be felt for years [\[vii\]](#). The commonly used term, a new normal, is particularly apt. Looking beyond COVID, it's important you factor in other potential sources of supply chain disruption, including:

- Major weather events
- Earthquakes
- Political and economic turmoil
- Unemployment, hunger and frustration
- Rise of nationalism and isolationism
- Second and third waves of COVID and other related pandemics



## 2 Change Your Mindset

It's time to review and clarify supply chain objectives. Take a long hard look to identify what's really important to you. Develop new supply chain resilience strategies, taking into account national and global trends. Carefully evaluate over-border supply chains, both for inbound and outbound transactions. Consider running what-if scenarios to evaluate multiple and single-sourcing strategies.

## 3 Invest in Advanced Analytics

If you haven't already done so, maybe it's time to invest in advanced analytics such as predictive and prescriptive analytics. Using well-understood and proven mathematical techniques, predictive analytics uses historical data together with market intelligence to predict future trends and outcomes to a high degree of accuracy. Prescriptive analytics takes this a step further with its ability to determine the optimal decision for any given scenario [lviii](#). Use these techniques to enhance and strengthen your supply chain resilience.

## 4 Re-Map Your Supply Chain

Take time to truly understand your current supply chain. Map it out in detail to identify all your suppliers and where they manufacture. Start with first-tier suppliers, then go down to second- and third-tier suppliers, and even further if necessary.

Take the opportunity to model your supply chain network [lviii](#). There are many available tools which will help with supply chain resilience monitoring. Modeling will allow you to identify weaknesses and help evaluate the need to incorporate redundancy or multiple sourcing policies.





## 5 Invest in a Digital Supply Chain Twin

Consider investing in a digital twin, an almost exact replica of the supply chain [\[ix\]](#). This technology is widely used. For example, DHL has created a digital twin of their warehouse in Singapore that they use to optimize logistics performance, while numerous engineering firms use digital twins to study equipment performance.

Advantages of a digital twin include the ability to:

- Evaluate scenarios
- Understand the effects of change
- Monitor and compare real-life performance

Take this technology a step further by fully integrating the digital twin so that it runs live in parallel with your business. In this way, it's possible to pre-empt surprises as well as obtain greater insight into supply chain resilience and performance.



## 6 Upgrade Scenario Planning

The unpredictable nature of the COVID-19 pandemic highlights the need for scenario planning [\[x\]](#). As infections decline and then spike in different regions, these unpredictably impact raw material supply and product demand. Forecasts have become obsolete, and it's no longer a choice whether a company rigorously prepares for a range of potential futures.

Scenario analysis allows organizations to play with a range of future possibilities, and determine how their resilience might be impacted by decisions they're making in the present and in the future. They can also use scenario analysis to define current and future resilience metrics, determining what level of agility is optimal, what costs they can afford, how they can optimize their network, etc.



## 7 Reevaluate Supply Chain Network Flexibility and Agility

Supply chains designed for low cost and minimal inventory may work well in good times, but they don't stand up to unexpected change and disruption. In fact, their very structure means these supply chains have low resilience and are easily disrupted. Work performed by management consultancy Bain has demonstrated that investment in supply chain resilience can improve plant output by between 15% and 25% thanks to greater flexibility and agility [\[xi\]](#).

## 8 Remove Supply Chain Forecast Bias

It's vital to remove bias from your supply chain planning and strategies. This bias presents itself in many forms, including:

- Optimistic sales forecasts
- Excessive levels of buffer stock
- Preconceived supply chain resilience strategies

Bias is a natural consequence of any situation where decision-makers don't have adequate information. The solution is to invest in a bias-free prescriptive analytics solution that can guide objective decision making and determine optimal solutions for any scenario you may encounter.

## 9 Stress Test Your Supply Chain

According to global consultancy, McKinsey, the severity and frequency of incidents causing supply chain disruption have increased year on year [\[xii\]](#). The company has identified numerous causes, including:

- Warfare
- Flooding
- Wildfire
- Pandemics
- Political conflict and confrontation

More than 30% of industrial supplies for North America come from outside the North American Free Trade Agreement (NAFTA) zone, highlighting the region's vulnerability to global disruption. McKinsey recommends stress testing supply chains to determine supply chain resilience. Supply chain simulation represents one of the most effective methods for stress testing supply chain resilience [\[xiii\]](#).

# Adopting the Right Supply Chain Resilience Strategies

Don't be fooled by encouraging signs of the economy slowly returning to normal. While the impact of COVID-19 will reduce, events of the first two decades of this century show that the only future certainty is uncertainty.

Despite this, companies that turn to advanced supply chain solutions aimed at enhancing supply chain resilience are finding better ways to cope with uncertainty, disruption and intense competition.

In almost all cases, these companies are finding the answers in advanced analytics such as predictive and prescriptive analytics. These advanced tools allow supply chain managers to accurately model their supply chains, evaluate different scenarios and devise how best to enhance supply chain resilience. It's important to take these strategies into consideration and find out how you can make them work for your own company.

## References

**[i] BEA:** Gross Domestic Product, 2nd Quarter 2020 (Advance Estimate) and Annual Update

**[iii] Markets Insider:** Goldman Sachs cuts US GDP estimate, now sees economy shrinking 4.6% in 2020

**[iiii] Process Improvement Japan and Australia:** Toyota Production System (TPS) Basics

**[iv] VOX EU:** What to do if COVID-19 is here to stay

**[v] River Logic:** Could A Second Wave of COVID-19 Ruin Manufacturing for Good?

**[vi] Lora Cecere:** Supply Chain Leaders Prepare For The Long Haul. Caution: It Will Be Gray.

**[vii] River Logic:** Predictive and Prescriptive Analytics: Your Supply Chain Needs Both

**[viii] River Logic:** Supply Chain Network Design: 9 Crucial Factors to Consider

**[ix] River Logic:** The Supply Chain Digital Twin: Is It Just Another Fad?

**[x] River Logic:** Scenario Planning Examples: What COVID-19 Has Taught Us

**[xi] Bain and Company:** Supply Chain Lessons from Covid-19: Time to Refocus on Resilience

**[xii] McKinsey:** Why now is the time to stress-test your industrial supply chain

**[xiii] River Logic:** Supply Chain Simulation: What You Need to Know in 2020 & Beyond

# About River Logic

River Logic has been a global innovator in prescriptive analytics (optimization) since 2000. Its platform — designed for business users — enables enterprise-wide optimization, collaborative planning, and performance management, all delivered through a revolutionary user experience. By understanding how to best utilize cross functional resources and manage trade-offs, companies make more impactful decisions.

River Logic goes to market primarily through partner organizations like PwC, Deloitte, Accenture, and Microsoft, helping them develop high-value applications that monetize their IP. Recent clients include Unilever, Boral, Philip Morris International, Boise Cascade, McKee Foods, and the Russian Post. Typical client value-add ranges from 10% in cost reduction to profit improvements equal to 2-5% of annual sales. River Logic strives to help every customer achieve at least 10X return on investment, but it is common for customers to see even higher returns.

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