



WHITE PAPER

Resiliency and the Power of Supply Chain Testing

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Leading companies are actively seeking and mitigating supply chain risks in preparation for the next global disruption.

“Financial stability cannot depend on omniscient supervisors identifying and preemptively defusing any potential source of crisis; it requires safeguards that can help the system withstand the force of a severe storm, and tools the government can use to limit the damage.” – Timothy F. Geithner

The Federal Reserve (FED) instituted financial stress tests following the 2008 crash as a preventive and corrective measure to ensure the stability and resilience of the banking sector. These tests are designed to evaluate how well financial institutions can withstand economic downturns. The 2008 financial crisis exposed vulnerabilities within the banking system, including excessive risk-taking and inadequate capital buffers. By implementing stress tests, the FED aims to identify these vulnerabilities early, compel banks to maintain sufficient capital reserves, and, ultimately, to prevent another financial crisis.

The economic disruptions caused by the COVID-19 pandemic bear similarities to the 2008 financial crash, albeit in different sectors. They both underscore the pertinence of rigorous stress testing, not only in the financial sector but also in the context of supply chains. The lessons learned from 2008, such as the need for resilience, diversification, and proactive risk management, are directly applicable to supply chain disruptions during the pandemic. Just as banks were encouraged to make provisions against future financial shocks,

companies should assess their supply chains and adjust their supply chain strategies to incorporate flexibility and diversification. This could involve identifying alternative sources based on geography, evaluating alternate materials, investing in digital technologies to enhance visibility across the chain, and establishing contingency plans to respond to potential disruptions. The 2008 financial crash demonstrated the potential catastrophes of taking risk, ignoring important information, and the lack of buffer systems - lessons that are relevant to today's supply chains.

Stress testing provides numerous benefits for supply chain management. It allows companies to identify potential bottlenecks, weaknesses, and risks within their operations, enabling proactive mitigation strategies. Stress tests provide important information on the points of failure and possible impacts by simulating various disruptive scenarios such as supplier failure, increased demand, or transport interruptions, thereby informing the development of robust contingency plans.

By understanding the potential impacts of these disruptions, companies can strategically allocate resources, establish robust options, and optimize their supply chains to withstand future shocks. Furthermore, stress testing can lead to a greater understanding of supply chain interdependencies, promoting efficiency and resilience. Stress testing equips companies with the insights and foresight necessary for stable and resilient supply chains.

amidst unpredictable market circumstances. It is a valuable tool that should be utilized regularly not just during periods of uncertainty. However, the TEST alone will not protect a company. The key is what actions the company takes after the stress test. The plans that stem from the test and the subsequent improvements is what drives resiliency. Resiliency is a design choice.

Supply Chain Resilience is Critical to Business Continuity

Supply chain resilience is critical to business continuity as it provides organizations the ability to promptly respond and adapt to disruptions minimizing impact on performance, reputational damage, and loss of revenues. A resilient supply chain ensures that the flow of goods and services is maintained, even under unexpected circumstances, such as natural disasters, pandemics, or geopolitical instability. This ability to bounce back after disruption is fundamental in a volatile business environment where change is the only constant. Further, a resilient supply chain not only mitigates risks but also provides the strategic advantage of being able to seize growth opportunities in an evolving market landscape. Hence, investing in supply chain resilience is integral to maintaining business continuity and ensuring sustainable growth. Resilience is a choice and achieved by purposeful design not by chance.

Resilience Starts with Understanding

Supply chain stress testing is a critical first step in designing a more resilient supply chain because it can identify vulnerabilities and areas of potential failure within the supply chain. Stress testing involves simulating various scenarios that could disrupt the supply chain, such as a sudden surge in demand,



a major supplier going out of business, a natural disaster affecting a manufacturing plant, geopolitical unrest, or a global pandemic. By evaluating how these disruptions would affect the existing supply chain, companies can better understand their current level of preparedness and design resiliency into their supply chains. The information gleaned through the stress test provides valuable insights for making necessary adjustments or investments to bolster the supply chain's resilience. In essence, stress testing acts as a diagnostic tool, uncovering weaknesses before they can cause actual disruptions and enabling proactive management of risks.

No company should expect to completely mitigate all supply chain risks. With numerous tiers and external factors beyond their control, it is critical to use stress tests to identify the greatest area of exposure. A strong stress test and resiliency design process should include:

1. Gauging the stress levels the supply chain can absorb before performance erodes.
2. Identifying potential points of failure and understanding the driving factors.



3. Evaluating the identified factors to determine paths to mitigation.
4. Redesigning supply chains to proactively address the critical risks.
5. Crucially, implementing these measures before crises occur.

The supply chain stress testing and resilient design process provides situational awareness, allowing organizations to make informed decisions, explore different options, and execute focused actions through careful planning and practice.

A Success Story

During the pandemic, an equipment manufacturer in the semiconductor industry benefitted from efforts to build Supplier Resilience by evaluating supply risk, improving supply chain visibility and access to information, and evaluating disruption scenarios. Beginning in 2019 the team began developing a comprehensive supply chain stress test and identified at-risk suppliers based on a wide range of factors.

The factors evaluated included geographic, socio-economic, natural disaster, political, and financial risks. Fortunately for the company, public health risks and impact were included in the stress test. Addressing health crises was not entirely new to the company as it had experienced and learned from the H1N1 outbreaks and had navigated the stringent health rules between mainland China and Hong Kong.

When the Covid pandemic hit in 2020 and the global repercussions began, the company was prepared. Based on the stress tests they ran, the key learnings they gleaned, and the resiliency they designed into their supply chain; the company was ahead of their peers in responding to the crisis. The supplier management team provided company executives visibility to mitigation options, flexed sources of supply to keep factories running, supported their strategic suppliers as they grappled with the pandemic fallout, and enabled the company to continue filling sales orders. By stress testing and designing for supply chain resilience, the company was able to meet revenue targets and strengthen customer relationships at a time when many companies were struggling.

Getting Started

“Chance favors only the prepared mind.”

– Louis Pasteur

In today's complex operational landscape, risks can take various forms including financial, operational, geographical, socio-economic, health-related, natural disasters, regulatory, climate-related, and geopolitical factors. These risks could manifest as supply challenges in acquiring rare earth materials like Lithium, labor shortages, limited transportation capacity, or compliance with environmental regulations. Often, it will be a combination of these factors. Leading companies are embracing Stress Testing and Resilience by Design as strategic investments to safeguard revenues, profits, and shareholder value.

The key question is: Will your company take proactive measures to ensure resilience or wait for the next crisis and scramble to react?

At New Dominion, we offer a comprehensive approach to Stress Testing and Supply Chain Resilience Design. Our solutions include:

- Developing a stress test protocol tailored to our client's supply chain ecosystem
- Crafting and executing comprehensive stress tests
- Interpreting the test results and providing actionable recommendations
- Assisting in the design and implementation of changes to enhance resiliency
- Supply chain continuity planning
- Integrating supply chain resiliency into key processes such as Category Management, Supplier Relationship Management, Risk Management, Sourcing, Sales, Operations, and Inventory Planning, and Demand Management

Contact Caldwell Hart to learn more about our firm, arrange a discussion with our experts, or explore your supply chain diversity opportunities.



Caldwell Hart is an experienced senior supply chain and procurement leader with more than two decades of experience across multiple industries. He served as a Chief Procurement Officer with multiple companies and led global organizations supporting manufacturing and services organizations. Caldwell excels at optimization and transformation through focused analysis, strategic planning, people, process, technology, and execution.

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Tim Murphy is an experienced consultant with over 25 years of experience helping clients capture value across their supply chains. He has extensive experience in procurement operations, sourcing, spend analysis, and category management. Tim believes that business process innovation is critical to the advancement of procurement and supply chain to survive and thrive in evolving global markets.

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New Dominion Consulting strives to provide extraordinary value to clients through the development of innovative, tailored solutions to meet today's challenges. We specialize in supply chain, procurement, operations, and sustainability where we help our clients improve outcomes and optimize realized value.