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Q&A with Forrester - Continuous Design for Supply Chain Resiliency

Following the webinar "**Continuous Design for Supply Chain Resiliency - With Forrester**", Coupa asked guest speaker, George Lawrie, VP, Principal Analyst at Forrester, to answer some pressing questions from companies confronting the impact of ongoing disruptions to their supply chains. Here he shares his insights on why continuous design for supply chains is an imperative for competitive success and provides tips for adoption.

How should I be adapting to the frequency and impact of disruptions to my supply chain?

Vertical supply chains lack transparency and resilience and have proved brittle in the face of COVID-19 disruption. Forrester has seen enterprises:

1. Invest in data federation and distribute trust to collaborate with customers and suppliers in multi-enterprise supply networks.
2. Invest in capabilities to anticipate, sense, and respond, complementing time series or historic sales data with predictive variables.
3. Build event pipelines, for example monitoring supplier and customer credit worthiness or natural disasters disrupting production or transportation.
4. Identify vendors and platforms to help continuously design supply networks, inventory, and assets. Triennial, annual, or even quarterly planning of supply networks, assets, and inventory risk a flat-footed response to sudden changes in supply and demand. **Enterprises must continuously design and replan distribution networks to anticipate changing patterns in demand and supply**.

The supply chain digital twin has become a buzzword. How should I practically think about what it is and how it will help my organization be more resilient?

The real value of digital twin lies in the mathematics and physics models that track, simulate, and predict real-world behavior inside a virtual environment, informed and updated by sensor readings from the physical asset. In supply chain, the assets are inventory, storage facilities, and transportation equipment. Through the digital twin supply chain leaders can:

- Monitor real world behavior – for example, changing patterns of demand
- Predict future bottlenecks – for example, warehouse capacity constraints and soaring shipping costs signaling the need to design and replan the distribution network
- Simulate the impact of replanning the supply network on cost to serve, lead time, and customer service.

But to do this practically, you need to:

- Collect data about the demand you need to fulfill. What drives the demand? Are there elements of seasonality, promotional demand, or new product uplift? You will need a dynamic model that tracks the changing center of gravity of demand as customers order more online.
- Model capacity, expected level of customer service, and the fixed and variable costs of your existing and prospective logistics facilities.

I already implemented a very robust planning and execution system. Why do I need continuous design?

The challenge is that the current planning and execution system have historically optimized the supply network based on the pattern of demand, supplier lead times, and economic order quantities at the time of implementation. Those variables – most obviously the pattern of demand – are in constant flux. In fact, established planning and execution systems assume a stable center of gravity for demand. But new channels, fragmented markets, and a much wider range of products continually shift the center of gravity for demand. Smart supply networks need continuous design to anticipate market developments.

What is the best way to implement a digital supply chain strategy?

Forrester interviewees described a five step process to develop an agile and resilient supply chain.

STEP ONE: Continuously Design for Efficiency and Resilience. Today's supply chains are highly efficient because they exploit low-cost sourcing and bulk transportation to deliver competitive unit costs. But they expose their shareholders and customers to the risk of expedited transportation cost, obsolete inventory mark down, or out-of-stock situations. Continuous design can help balance risk and efficiency, supporting "just right" supply chain policies, that deliver value for customers and shareholders.

STEP TWO: Assemble and Empower a Supply Chain Risk Team. Supply chain risk management (SCRM) teams must own the response to supply chain anomalies. The team should regularly review the potential impact of risks on continuous supply network design and monitor effectiveness in exploiting data-driven insight and on demand logistics to boost service and resilience.

STEP THREE: Simplify Your Supply Chain. Supply chain length and complexity increase supply chain risk. Even before the pandemic, we saw companies rationalizing their range of suppliers and products and continuously designing supply networks for high priority customers and channels.

STEP FOUR: Review Applications and Platforms that Power a Resilient Supply Chain. Forrester has seen savvy enterprises upgrade their rigid supply chains using supply chain control towers as a stepping stone to full participation in multi-enterprise, resilient supply networks. To do this right, you'll need to include continuous supply network design in your application portfolio.

STEP FIVE: Identify and Protect Supply Chain Bottlenecks. Every supply chain has bottlenecks such as congested ports or limited production capacity for a critical component. Every company has buried deep in its execution systems, some kind of bottleneck protection, for example alternate bills of materials, alternate vendors, or alternate carriers. Yet these are useless without continuous network design to bring them online in a crisis. Adapt your business models to new levels of uncertainty and risk. Coupa's Supplier Portal manages trusted trading partners and can recommend alternative suppliers that have already been vetted against risk thresholds. Some enterprises develop multispeed supply chains with onshore, nearshore, and offshore capacity. Additionally, use options to boost resilience. Consumer electronics brands with short product lifecycles secure call options on production capacity for plasma screens or embedded memory in case they have runaway sales success with a new product introduction. Other enterprises compensate for supply chain uncertainty by using grey markets as a kind of put option. Fashion brands risk overproduction but use off-price retail channels as an outlet for excess inventory.