Automating Resilient Cost-Effective Supply Chains

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Configuring your supply chain systems to mitigate current and future risks is a foundational supply chain activity and yet it's one that organizations struggle to do well. This results in **disruption of timely product delivery to customers, costs organizations huge sums of money**, and contributes to a view of supply chain planning as a reactive rather than a proactive function.

Your planning system is the heartbeat of your supply chain and how you set up or configure your planning system directly determines:

- The level of service you will deliver.
- The cost of operating the network and therefore what margin contribution you deliver for the business.
- How much inventory you are holding?
- How much waste or discards you will have?
- How resilient the supply chain is. Do you routinely achieve your service cost and inventory goals or are these only possible with multiple expedites and interventions?

Put simply, the supply chain planning set up determines whether your supply chain will **succeed** or **fail**.

Planning Systems drive supply chain activity and determine whether your supply chain is resilient to Risk and Disruption or whether you are simply buffeted by those dynamic forces and are constantly reacting to them.

Oii automates supply chain design and monitoring, modeling cost-effective and resilient networks that proactively manage dynamic risk and variations.

Having a resilient network means being **set up and ready** to respond to operational disruption as well as being agile to one off events and shifts in the fundamental conditions of your supply and demand. This means ensuring that as external factors change, the performance of the supply chain remains **reliable and predictable.**

Supply chains and their enabling systems are set up with the best of intentions around a “current” set of conditions or market dynamics. However **short and long-term** shifts in these conditions can quickly result in the intended design becoming obsolete or simply incapable of meeting service and cost expectations.

Network configuration must be dynamic to keep abreast of changes in external factors such as **supply availability, lead time consistency and customer demand.**

To achieve this, fluctuations in network performance and potential disruptions must be incorporated into the design and configuration of the supply chain.

How resilient is your supply chain network today?

- ***75%*** of companies have experienced external disruptions to their manufacturing supply chain in the past year.
- ***56%*** of companies have experienced more disruptions to their supply chain this year than last year.
- ***98%*** of companies believe measures should be taken to avoid future supply disruptions, but **only *63%* have done so** to date.

Source: www.wevolver.com/article/the-2022-supply-chain-resilience-report

This is not something a simple formula can achieve. It requires three Capabilities:

01

Resilient Design

- Quantify the detailed attributes of network performance.
- Predict the size and nature of future variability.
- Understand exactly how each network design impacts service level, cost to serve, and network reliability.

02

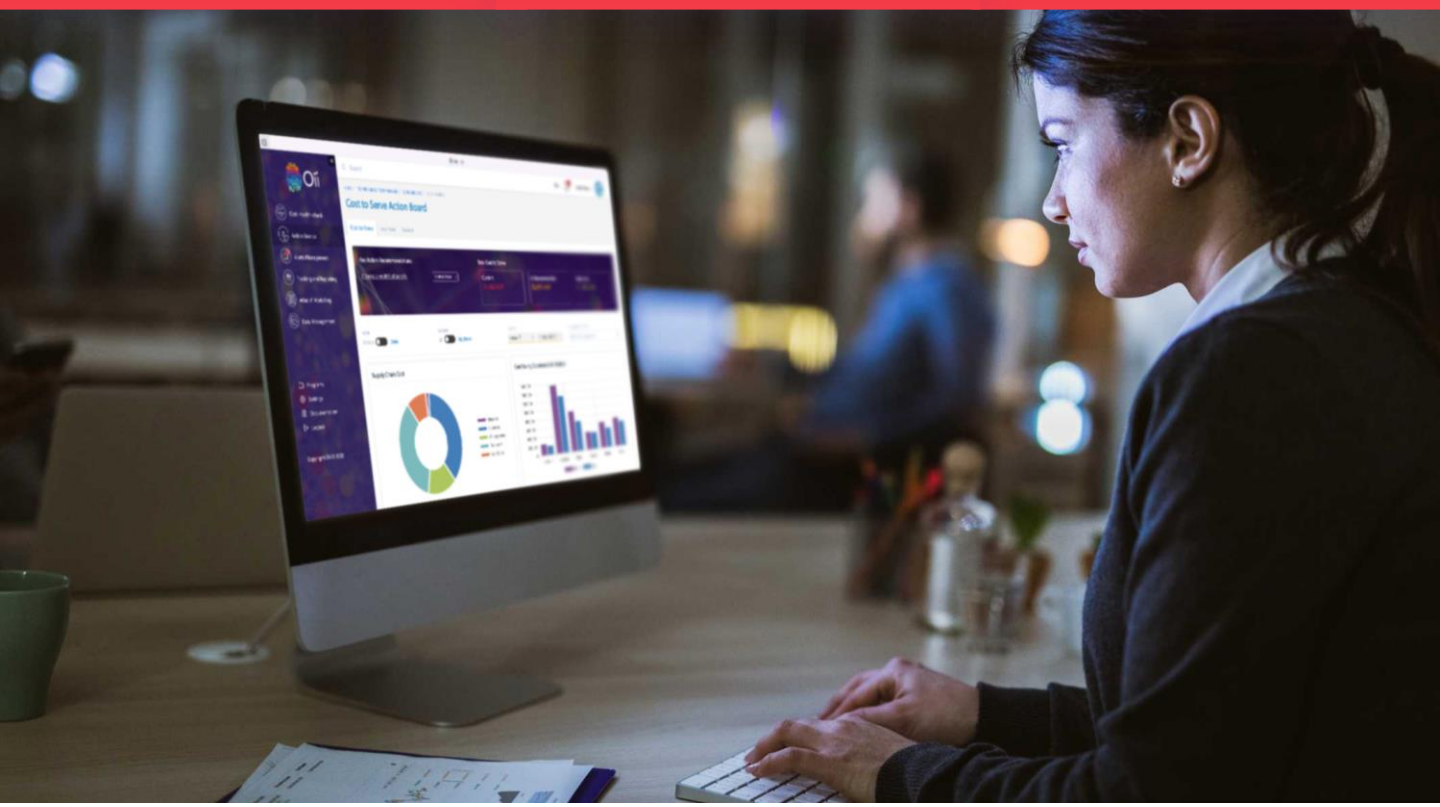
Human Insight

- Allow human operators to see the impacts of specific situations, risks, and changes in underlying network performance with what-if scenarios.

03

Operational Adaptability

- Ongoing monitoring of network performance and reconfiguring when needed.



In our experience, the requirement to incorporate these three capabilities to design a resilient supply chain isn't well enough understood. The result is that the supply chain personnel spend their time either trying and failing to predict the future or reacting to events.

Supply chain disruption is the norm because poorly configured networks are the norm.

When a network is not configured to be resilient then we see:

- **Service failures or expedites**
- **Waste (excess Inventory or discards)**
- **Excessive costs**

The bottom line is literally the bottom line:

A supply chain that is designed for resilience will simultaneously achieve Service Level Targets and drive higher gross margins

Right now, in most organizations modelling supply chain configuration is a task given to humans.

Oii transformative technology automates supply chain design using advanced modelling and AI to ensure resilience and responsiveness are built into your network and continuously maintained as risk and variability change.

It does this by navigating through a multitude of possible supply chain setups and outcomes in order to find the best one, and then maintains that optimal set-up as dynamic supply and demand side variability change.

The technical components that Oii uses to design and configure resilient networks are:

01 **Monitor and measure network performance**:
How are supply availability and lead times changing?

02 **Build a Multiverse of Digital twins**: Oii uses system data to automatically construct multiple replicas of every supply chain and how they are all interconnected. This allows Oii to see how each supply chain performs with different configuration settings given its demand, forecast, lead times, and lead time variabilities.

03 **Demand SMSpace AI**: Oii AI starts with your forecast and then creates a multitude of different possible ways actual demand will play out. The intelligence is in predicting what variations you are likely to see. All of these possible future demands are simulated with different supply chain parameters until the most resilient and cost-effective configuration that satisfies your Service Level targets is found.

This is the setup that is recommended by Oii.

Because these calculations are performed automatically whenever the inputs to the supply chain change (supplier performance, lead time, lead time variability, demand etc.) Oii adjusts the recommended settings accordingly. In this way it provides a proactive approach to supply chain risk, while consistently ensuring that costs are minimized, and that the total cost to serve is transparent down to the individual item level.

What is the outcome of this analysis?

- Firstly, a health check on the resilience of your current network and planning infrastructure. Service, Inventory, Total Cost, and Waste are all computed.
- Secondly, the tool finds the optimal set up and recommends specific changes to achieve it.
- Thirdly, it identifies and tracks the benefits delivered through an optimal set-up and these are significant.
- Fourthly, it creates the environment for the organization to continuously monitor and adapt.

Oii ensures that resilience to operational disruption is built into your supply chain design and is constantly maintained and adjusted.

In this way we enable supply chains to Predict and Prepare for what is predictable and react quickly to what is not predictable.

Delivering The Future Of Supply Chain Management Now.

Contact Us:

If you would like to learn more, contact us and we would be happy to show you how Oii can transform your supply chain

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