

Beyond the Buzzword: Making Supply Chain Agility a Reality

Repeat a phrase too often in rapid succession and its meaning melts away. This effect, called semantic satiation, is hindering many of the “agile supply chain” initiatives that boards and C-suites currently prioritize.

Most supply chain teams on the ground recognize the need for genuine agility, given that they – along with investors – have borne the brunt of sluggish supply chains whose persistent focus on cost impedes resilience and revenue assurance. Boards, leaders and operations executives alike should look beyond the buzzword by defining, executing and calibrating supply chain agility in concrete terms and actions that reflect the unique needs of their business. Doing so will help keep a lid on costs and enhance the customer experience while yielding opportunities for margin improvement and new revenue streams.

A strategic necessity

Supply chain agility is not a new concept. For years it has been bandied about, but too loosely and easily in many cases. Recent global disruptions – a tsunami, other extreme weather events, a global pandemic and the war in Europe – have unequivocally exposed the shortcomings of a low-cost supply chain model that has not changed in decades, even as other crucial business capabilities (e.g., customer and sales models) have transformed rapidly and repeatedly over the same period.

At its core, supply chain agility enables companies to change modes of sourcing, manufacturing, distribution and servicing (e.g., making new products, sourcing from new suppliers and geographies, switching out processes) as seamlessly as possible. That means making major adjustments without blowing up costs, customer service levels or human resources. Highly reactive responses to successive global crises in the past three years have exacted a major toll on supply chain teams; fatigue and frustration are widespread, which reduces the likelihood that future *ad hoc* pivots will succeed to the degree that recent reactions have.

This qualifies supply chain agility as a strategic necessity. Cultivating it requires a clear definition and understanding of the instruments and mechanics that enable it, as some companies have demonstrated.

Data analytics, algorithms and insights

Compared to many of its competitors, Macy's stands out as a "retail marvel," according to Supply Chain Dive, for avoiding the inventory glut that walloped companies across numerous industries last year after they overcorrected to pandemic-driven supply constraints throughout the two previous years. Macy's inventory increased by only 7% year over year in the second quarter of 2022, compared to competitors whose inventories increased 36% to 48% during the same period. Macy's chief supply chain officer attributed the success to sophisticated algorithms and data analytics that strengthened demand planning and enhanced the company's purchasing strategy.¹

While supply chain agility delivers financial benefits, customer service improvements and access to new revenue opportunities, many organizations discover that their supply chains are not agile or resilient enough until the damage has been done – after the Suez Canal is blocked, after a valuable customer defects, or after a competitor unveils a lucrative sourcing, manufacturing, distribution or service-transformation innovation. Traditional PC manufacturers were blindsided by Dell's direct-to-market strategy and supply chain management approach in the late 1990s. More recently, much of the traditional auto industry has scrambled to catch up to consumers' embrace of electric vehicles (EVs) after Tesla and other EV-only upstarts leveraged their demand-side insights to achieve a major head start.

Important considerations

The widespread need to invest more attention on the demand side marks one of two important considerations that boards, C-suite leaders and supply chain teams should weigh as they design new capabilities to cultivate supply chain agility.

- The majority of supply chain management activities focuses on the supply base. Similar levels of scrutiny, effort and innovation should extend to customer ordering patterns, demand management activities and customer collaborations. Even some of the largest companies are not as close to their customers as might be expected. There are ripe opportunities to improve information sharing with customers to enhance visibility across end-to-end supply chain activities.
- Organizations should strive to achieve a level of agility maturity commensurate with their competitive strategy and overall business objectives. A consumer-facing high-tech company that continually upgrades its products and pushes new innovations to the market needs to achieve a higher level of supply chain agility than, say, a candle maker. The candle maker certainly should develop the ability to respond to disruptions quickly,

¹ How Macy's has managed to avoid inventory glut, Kate Magill, Supply Chain Dive, Nov. 1, 2022: <https://www.supplychaindive.com/news/macys-inventory-management-no-glut-supply-chain-officer-dennis-mullahy-interview-peak-season/635408/>.

effectively and efficiently, but it likely does not require a world-class supply chain management capability.

Enabling agility: Sense, respond, repeat

The organizational component of supply chain agility is huge: supply chain teams and all the internal groups that support and interact with them must be equipped with the tools, data, processes and knowledge required to operate an agile supply chain management capability. The following list highlights most of the mechanisms needed to build a supply chain agility framework that continually monitors, and adjusts in response to, each organization's unique supply chain risk exposures:

- **Environmental scanning:** While environmental scanning has been used for decades, the practice is often mistreated as an overly formal activity. Environmental scanning enables supply chain leaders to monitor and recognize changes among customers, competitors and supply chain practices that pose threats and/or opportunities – and therefore should be addressed.
- **Sense and respond capabilities:** The best governed and managed supply chain capabilities operate with a diverse set of “sense” and “respond” capabilities. Sense capabilities include the use of failure mode and effects analysis (FMEA) tools to identify and categorize risks, demand analytics, predictive supply analytics and a range of automated alerts that are triggered by supplier performance. These data and insights feed into, and prompt, a variety of respond activities, including:
 - Updates to integrated business planning (IBP) programs
 - Dynamic capacity management adjustments
 - New risk mitigations (e.g., multi-sourcing arrangements)
 - Real-time contractual adjustments
 - New types of customer collaborations centered on ordering and forecasting
 - New simulations of supply and demand scenarios

Beyond assessing worst-case scenarios, simulations can pin down weakness in longstanding warehousing and production strategies, dedicated logistics routes and sourcing approaches. Other simulations can help companies adopt endless-shelf models that enhance customer satisfaction and customer value.

- **New tools and data:** Sense and respond capabilities are driven by a new wave of supply chain systems, applications and technologies, including advanced analytics, visualization dashboards and a variety of AI, machine learning (ML), natural language processing (NLP) and cognitive technologies. Some leading supply chain capabilities are

deploying digital-twinning techniques to identify process improvements. Cloud-based supply chain orchestration platforms sit above the traditional supply chain applications that contain supply chain data while enabling disparate systems to work together in a unified manner to deliver a single, accurate view of each order and each customer.

To thrive, all of these solutions require data. This requires identifying and extracting all relevant supply chain, customer and related transactional data contained within the jumble of organizational systems. This data should be supplemented with new data – geolocation data, geospatial data, information collected by Internet of Things (IoT) sensors in factories and along logistics routes, weather data and more. Certain data management activities, including data transformation and data federation, play a key role in connecting different data sets in an efficient, cost-effective manner. These actions may prevent the need for large data-replication efforts and the latency challenges this approach may trigger.²

- **Multiskilling:** When traditional auto manufacturers transform their assembly lines to produce EVs, factory workers must be trained to recognize and mitigate the risk of electrocution. That chilling possibility is an example that underscores the pressing need for multiskilling throughout supply chain expertise domains. Category managers must learn about purchasing new technologies from new sources. On the production side, teams must continually learn how to perform new tasks while operating, diagnosing and repairing new technologies and equipment such as autonomous mobile robots (AMRs). Logistics teams must incorporate new data from new sources to find new routes and quickly address unexpected obstacles. Service engineers must learn new diagnostic and repair procedures for new product technology. Put simply, agile supply chains require proactive approaches to reskilling.
- **New metrics:** Leading practitioners develop supply chain resiliency and agility indices that monitor the business and financial impacts of supply chain adaptability (and/or lack thereof). These dashboards blend traditional cost and efficiency measures (e.g., days in inventory, capacity headroom, asset redundancy) with newer, more advanced measures such as sense and respond maturity, time to recover (TTR) following disruptions, the ability to respond to changing customer requirements, and even time to survive (TTS).

There are other enablers. COOs and supply chain leaders should collaborate closely with their sales, IT and HR colleagues to understand customers, implement and update supporting technologies, and strengthen upskilling and reskilling activities. Finance groups often need to rethink traditional cost-accounting models that can impede experiments and innovations

² Supply chain orchestration graduates from theory to leading practice, David Petrucci and Lucas Manganaro, Supply Chain Dive, May 15 2023: <https://www.supplychaindive.com/spons/supply-chain-orchestration-graduates-from-theory-to-leading-practice/650105/>.

related to new products, services and processes. Board- and C-suite- governance-related supply chain risk management may require rethinking.

The good news is that the majority of this work is straightforward so long as it is tied to the business' competitive strategy and grounded in managing the finer details of both supply and demand management. Supply chain agility is not semantics; it is a strategic urgency and should be backed by formalized tools and processes.

How Protiviti can help

Today, the manufacturing and distribution industry faces unique and complex challenges on a global scale. Even smaller organizations must navigate suppliers, logistics and regulations from different parts of the world. As organizations search for ways to drive innovation in how they design, produce and deliver, they often struggle to implement those changes for long-lasting value.

These challenges also provide enormous opportunities for companies to see beyond the short-term challenges and position themselves for long-term success.

Protiviti partners with leaders to help them achieve greater confidence in these dynamic and ever-changing environments. We aim to better understand the unique strengths, risks and opportunities of your organization and its future goals.

Our Supply Chain and Operations Consulting experts work closely with key stakeholders to integrate industry best practices and leading technology to create tailored solutions to help your organization:

- Reduce operating costs
- Increase productivity and service, and
- Reduce the capital required to support business goals and objectives

With the help of a tailored, multi-disciplinary team of professionals that fits your situation and company culture, we collaborate to build custom solutions that maximize your chances of success.

While the process is never simple, our goal is to help make you better equipped as you embrace the future.

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