

INTELLIGENT SUPPLY CHAIN

REINVENTING THE SUPPLY CHAIN WITH AI

BUSINESS SITUATION

NEW DEMANDS ARE STRESSING THE SUPPLY CHAIN

The age-old objective of the supply chain—to have the right product, in the right place, at the right time—has always been challenging to achieve. Today, market forces are creating new demands, which are exceeding traditional supply chain capabilities.

Market volatility adds uncertainty and risk

Competition, increasing regulations, the changing geopolitical landscape, and unpredictability in price and supply are testing companies' readiness to respond and ability to operate cost effectively, on a global scale.

Digital disruptors are owning the growth

In many categories, new niche brands are challenging legacy leaders by using digital technologies to provide more engaging and relevant experiences. Incumbents are trying to catch up by developing new competencies and capabilities.

Consumers' expectations are continually rising

They want hyper-personalized experiences with customized products, and localized execution, including the ability to buy, collect, and return anywhere at any time. However, existing supply chains are not designed to fulfill one-of-a-kind customer requirements.

Omni-channel engagement is difficult to deliver

Some legacy companies are trying to redesign their operations to provide a unified brand experience and frictionless fulfillment across all channels. However, they struggle to manage the execution while simultaneously increasing profitability.

These dynamics are exponentially increasing supply chain complexity, which in turn, is impacting both cost and risk. Supply chain organizations, which are locked into existing models, are experiencing eroding margins and struggling to invest in new capabilities that will allow them to support new business models.



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KEY TENSION

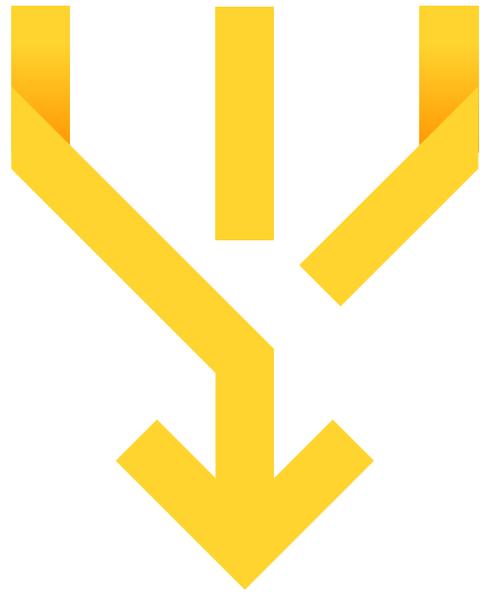
SUPPLY CHAINS ARE OFTEN TECHNOLOGICALLY CONSTRAINED

Most of today's enterprise supply chains are built on technologies that are up to 20 years old. They are analog machines trying to solve problems in a digital world.

They lack end-to-end visibility, data-sharing across silos, real-time response capabilities, and flexibility in last-mile delivery. This leads to slow response times, waste, conflicting priorities among functions, delays, and operational rigidity.

As such, traditional supply chain organizations operate in fragmented, functional silos that focus on optimizing a particular aspect of the supply chain, rather than optimizing across the entire value chain. Therefore, they aren't able to operate efficiently with the granularity needed to meet customers' unique expectations.

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INSIGHT

DATA WILL FUEL SUPPLY CHAIN VISIBILITY & AGILITY

Supply chain organizations need to focus on reinventing their operating models to break silos, develop end-to-end visibility, and create an agile and seamless collaboration model.

New data sources and advanced analytics can make this possible. Leveraging artificial intelligence (AI), companies can process massive and diverse data sets from across all functions in order to provide better visibility within the supply chain.

With AI, companies can extend that visibility by adding data from sensors at customer locations, end-consumer devices, multiple points of sale, and external data warehouses. And, they'll be able to tap into new data sources in the market, like social media sentiment, to spot trends, anticipate needs, and respond faster, and with more agility, than they do today. This data can form the foundation to reinvent supply chains as customer centric, service oriented, self-learning, intelligent and agile, and, in so doing, improve customer experiences and increase margins.

IN PRACTICE:

RE-DEFINING THE RETAIL VALUE CHAIN

Let's look at a fast-growing global fashion retailer. Like many of their peers, they were experiencing excessive store-level inventory at the end of each season.

Traditional methods of clearing inventory, such as promotions and mark-downs, were leading to revenue loss and missed opportunities. Pre-season and centrally managed sales forecasts proved to be time-consuming, and inaccurate. Forecasting was largely based on historical data, experience, and intuition of individual sales-planning professionals. Furthermore, long planning horizons and siloed manual planning with delayed market responses, contributed to sub-optimal results.

The retailer was looking to increase sales by significantly improving their forecasting accuracy, to leverage intelligent product segmentation in order to tailor supply chain fulfillment strategies, and to optimize their supplier network.

With advanced analytics and machine learning, they were able to drop forecasting error rates significantly—from >90 percent to around 30 percent. This had a significant positive margin and brand image impact by eliminating excessive season-end promotions and mark-downs. And 20 percent of their production capacity was reallocated closer to the consumer markets using network and flow path optimization. In total, the retailer was able to achieve >\$200m in annual benefits.

OPPORTUNITY

ENABLING SUPPLY CHAIN TRANSFORMATION WITH INTELLIGENT TECHNOLOGIES

By putting data at the core of their operating model, supply chain organizations can develop powerful new capabilities, processes, and metrics. Leaders who make the transformation increase their forecasting accuracy, identify and resolve issues in real time, and create new segmentations that enable them to deliver on consumer requirements with speed, specificity, and scale.

THIS TRANSFORMATION IS ENABLED IN THE FOLLOWING WAYS:

Establishing end-to-end visibility and centralizing control

Intelligent technologies make it possible to manage supply chain complexity. They capture, process, and utilize vast sets of structured and unstructured data to provide real-time visibility. Supply chain organizations will leverage this power by creating “control towers” to centralize data and decision-making. New network-based planners will drive internal, vendor, and customer collaboration to align expectations, develop plans, and manage exceptions.

Creating new performance engines

AI and machine learning enable powerful resolution engines. These are based on real-time, root-cause analyses, to automate the execution of supply chain functions, as well as optimize transactions to meet strategic objectives. AI can process data in enormous quantities to perform real-time, what-if analyses and supply chain management (SCM) modeling to optimize the supply chain along more variables than ever before. When a significant change occurs, the engine will determine the impact on key performance indicators (KPIs) and make immediate supply chain decisions that help achieve business outcomes and optimize financial results.

Managing through agile decision-making

Currently, supply chain activities are driven by sales and operations planning cycles, and executed manually. Leveraging the power of intelligent technologies, future management models can be fully collaborative, data driven, and platform based. On an ongoing basis, participants can share qualitative information and real-time data from the supply chain systems, review reports, and discuss implications.

As exceptions are identified or opportunities arise, planners can create resolution options, share with stakeholders, discuss on the collaborative platform, and take immediate action. Additionally, all qualitative information that is currently being exchanged—and lost—in phone calls and emails is saved along with the changes. As such, sales and operational planning will transform from manual and linear to continuous and collaborative.

Developing a personalized and flexible approach

AI's computer power makes it possible to create more and more granular segmentation strategies that address consumers' personalized needs by channel, service level and locality. In addition, real-time visibility into market data will produce greater insight, variation, and urgency of understanding and meeting demand requirements. This empowers supply chain organizations to rapidly develop multiple supply chain models for a single, integrated network.

Unifying and amplifying performance management

Advanced analytics enable a new way to measure and manage performance. In addition to tracking traditional functional metrics, supply chain organizations can determine impact on ultimate business outcomes. They can develop new end-to-end metrics to measure performance and cost across multiple functions, such as procure-to-pay and order-to-cash. Additionally, using predictive scenario modeling, organizations can evaluate the business impact of various options, like corrective plans for missed supplier shipments or new promotional campaigns.

Ongoing optimization to achieve outcomes

Machine learning enables the attainment of goals over time by self-learning, predicting, prescribing, and optimizing supply chain performance automatically across the functions. Automation can flag and resolve exceptions in real time. Machine learning-based algorithms can predict these exceptions and supply chain outcomes. As the nature of the exception or resolution process changes over time, cognitive computing learns and adapts to it. This enables supply chains to handle more complexity, making them more dynamic, flexible, adaptive, and efficient.

Intelligent technologies—fueled by end-to-end data—can add essential value to a supply chain organization. Not only do they unify the supply chain, creating new efficiencies and operational capabilities, they unlock capital to reinvest in new business models that enrich customer experiences, build competitive advantage, and support profitable growth.

Explore how Accenture is helping power more intelligent supply chains with analytics and AI.

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