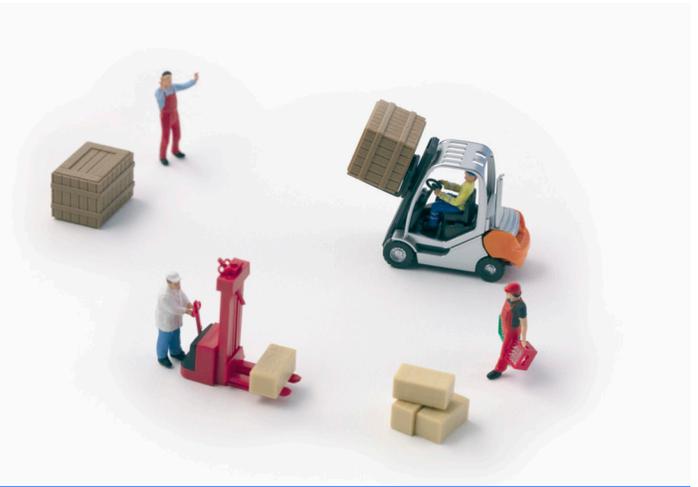# SUPPLY CHAIN
REINVENTOR

Congratulations! You are already well along the path of digital transformation. This assessment will help you identify your next steps so that you can continue to stay ahead of the competition.

- Your supply chain logistics have continuously improved over time, making your organization agile in real time relative to changing conditions. For example, you can now adapt based on breaking news, local insights, traffic patterns, neighborhood sentiment, weather conditions and local store inventories.

- You can track product quality for each unit of inventory across your supply chain by collecting reliable data from all points in the supply chain. This includes variables that may affect quality assurance, like temperature, expiration dates and sell-by dates.

- You actively collaborate with supply chain partners across the ecosystem to share data and integrate both back-end (upstream) and front-end (downstream) data in order to build a more efficient and effective process.

- You combine social listening, multichannel demand data and inventory availability to predict and fulfill product demand at the local level to enable you to match supply and demand with confidence.

What's Next?

As your supply chain continues to transform, you will derive even more benefits from the close integration of internal and external data. Combining data from social media and Internet of Things (IoT) systems with comprehensive artificial intelligence-driven predictive and prescriptive analytics, as well as information from openly collaborative cloud-based commerce networks, will unlock the potential of your supply chain.

Your Action Plan

- **Increase transparency and automation:**
Gain real-time inventory visibility by adopting or fine-tuning your supply chain management system (control tower). These systems use AI technology to provide comprehensive search, visibility and insights across the entire supply chain. With such tools, organizations can predict, quickly assess and more effectively mitigate disruptions and risks, and optimize supply chain decision-making and performance. Advanced analytics can also parse and help you understand complex regulations to ensure suppliers abide by the rules.

- **Double down on demand forecasting:** Internal and external data, both structured and unstructured, from the Internet of Things (IoT), social media, news feeds, weather–tracking–and emerging blockchain-enabled networks can help you forecast demand more accurately. With tools such as IBM's MetroPulse, you can better predict local demand for a given store and align every aspect of the store (location, assortment, content, prices and services) and supply chain with hyper-local neighborhood dynamics. Explore emerging applications such as "demand sensing," which enables AI to extract customer insights from the market to predict demand.

- **Recognize that real-time data transparency is king:**
Incorporate blockchain technologies that give authorized trading partners a transparent, shared record of real-time digital transactions. For instance, for tracking global shipments, IBM's TradeLens provides an electronic ledger so that during transport, all of the parties involved in the supply chain can view tracking information in near-real time. That information includes shipment arrival times and documents such as customs releases, commercial invoices and bills of lading. Other emerging technologies, such as spectral analysis, use smart phones with AI technology to scan assets for their unique microscopic properties to create digital fingerprints that verify authenticity to reduce counterfeiting.

- **Embrace omnichannel distribution and fulfillment:**
Expand your use of AI-enabled tools that provide comprehensive search visibility and insights across the entire supply chain to further streamline the coordination of customer orders, fulfillment and return processes. Fine-tune your single, central order-management hub to manage online, retail and wholesale businesses.

Find out more: ibm.com/retail-supply-chain

The Landscape

Yesterday's supply chains were focused on availability, monthly forecasts and the cost of physical assets. Now, companies are trying to better match supply with demand and turn vast amounts of available data into insights they can use to transform their supply chains in real time.

The terrain is slightly different if you are a consumer packaged goods (CPG) company, as opposed to a retailer. Leading CPGs are already quite mature in their supply chain operations, but not as far along in their ability to plan and forecast on a daily and even hourly basis. Retailers, however, are more advanced in planning and are still catching up on operations.

Challenges

- **Channel fragmentation:** Not only are consumers connected to retailers through an expanding number of channels, but behind each channel is an increasingly complex fulfillment infrastructure. The fact that consumers can shop, ship or pick up their purchases in myriad ways is creating new buyer journeys for retailers and verticalized CPG companies. That puts pressure on suppliers to forecast, plan, fulfill and replenish more quickly and more efficiently than ever. Traditional data patterns that help predict demand are now being turned upside down.

- **The rise of direct-to-consumer:** Many companies are adopting a direct-to-consumer model, selling and delivering their own products. This can be particularly challenging for CPGs, who are used to shipping pallets in batches overnight and shipping to a fixed number of retailer warehouses. Given this new dynamic, companies must accommodate millions of delivery touchpoints in hours rather than days, while optimizing for customer experience.

- **Increasing focus on sustainability:** Leading companies have prioritized sustainability in terms of the social, environmental and health impacts of their supply chains. This requires a new level of transparency and making trusted information available about sourcing conditions, production processes and environmental impacts (e.g., carbon footprint and waste) across the supply chain.

- **The growing impact of unexpected weather events:** These unusual events can be far-reaching, as with earthquakes, tsunamis or hurricanes, or they can be local, as with big weather events, power outages and road closures that jeopardize critical shipments. Supply chains are improving in their ability to anticipate such events. And companies are learning to react more quickly to mitigate the cost of events they can't predict.

Changing the Perspective

Using AI to decrease supply chain cost, complexity and risk.

Problem: Acme Computers, a global PC maker, realized that its extensive supply chain generated vast amounts of actionable data that could inform efforts to make it more efficient. But gathering that data and analyzing it effectively are two different things, and their employees were unable to manually process the information productively.

Solution: Using IBM Watson Supply Chain Insights, Acme was better able to predict, assess and mitigate disruptions to its supply chain. With this AI-powered approach to risk management, the company shrunk its average response time to supply chain disruptions from days to minutes, making it up to 90 percent faster than before.

Transforming the supply chain for global expansion.

Problem: Lockt, a leading manufacturer of padlocks and personal safes, was expanding rapidly globally. It needed to onboard at least 40 new global trading partners a year and manage the accompanying EDI (electronic data interchange) integration, a process that was no longer cost-efficient to complete manually.

Solution: The manufacturer opted to use IBM's cloud-based secure solution, known as IBM Supply Chain Business Network, to integrate its new trading partners and automate the process of EDI migration. With this tool, the company was able to onboard 200 partner maps from a new company it acquired in half the time it would have before. A process that usually took 12 months could now be completed in six.

- In 2018, supply chains had over 50% more data available to them than five years ago.

- Less than a quarter of the data available to supply chains is being analyzed in real or near-real time.

- Only 8% of supply chains say they're at the most advanced stage of digital maturity.

Source: IDC Technology Spotlight, "The Path to a Thinking Supply Chain."