



Supply chain: Delivering a superior customer experience through an optimized supply chain

The Smarter Commerce approach to integrating planning and execution amid volatility

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Supply chains and the customer experience

Supply chain performance bears directly on the customer experience. Your company's ability to execute the perfect order—with the right quantity, product or component quality, and documentation—can profoundly influence customer loyalty and profitability. Speed, acceptable pricing and broad channel availability are core to the mission, not just for one customer, one time, but on a scale of millions or billions of buyers for years to come.

Supply chain managers are under unprecedented pressure to improve how they source, produce, transport and deliver goods to meet rising expectations among consumer and business customers for competitive pricing, instant product availability, innovation and customizability. The mandate for a superior customer experience—once the province of front-office marketing and service—is now shared across the complete supply chain.

Achieving that ideal requires efficiency and synchronization across the entire global supply chain, and that's anything but simple in a highly volatile environment. Complex global supply bases, demand and cost variability, and limited visibility and control pose a ceaseless threat to supply chain performance. Uncoordinated transportation and order management processes can punish companies with high costs, delays and lost revenue.

In our fast-moving global world, the gap between supply chain leaders and laggards is growing more pronounced. With the IBM Smarter Commerce™ approach of putting the customer at the center of all buy, market, sell and service functions, supply chain leaders are making strides in answering key challenges of minimizing cost and risk and adapting to demand variability. They are tightening collaboration with their peers across the value chain to better serve the new boss—the chief executive customer.

About this Smarter Commerce series

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Demand variability and costs bear directly on customer relationships

Many supply chain executives hoped that globalization and the Internet would be the catalyst to transform supply chains into agile and synchronized engines. The access to data, scope and cost advantages would be enormous, making it possible to transact with suppliers across the globe nearly as easily as with a supplier across town and tightly manage goods across the supply chain lifecycle.

Enterprises have reaped many rewards from the global supply chain, but it is a double-edged sword. As the supply chain has grown faster and more global, it has become more susceptible to volatility and disruption. Organizations have derived benefits by broadening their pool of suppliers, but they've also introduced more potential points of failure. In a complex, multienterprise supply chain, a single disruption can prove catastrophic.

Multiple challenges confront both inbound and outbound supply chain processes in both business-to-business (B2B) and business-to-consumer (B2C) markets in a range of industries, from manufacturing to consumer packaged goods to retail. Demand variability is the top challenge, identified by 53 percent of 664 supply chain leaders surveyed by IBM across 29 countries, as reflected in Figure 1.¹ High customer expectations, economic turmoil and peak demand at launch for certain coveted products are among the factors behind demand variability.

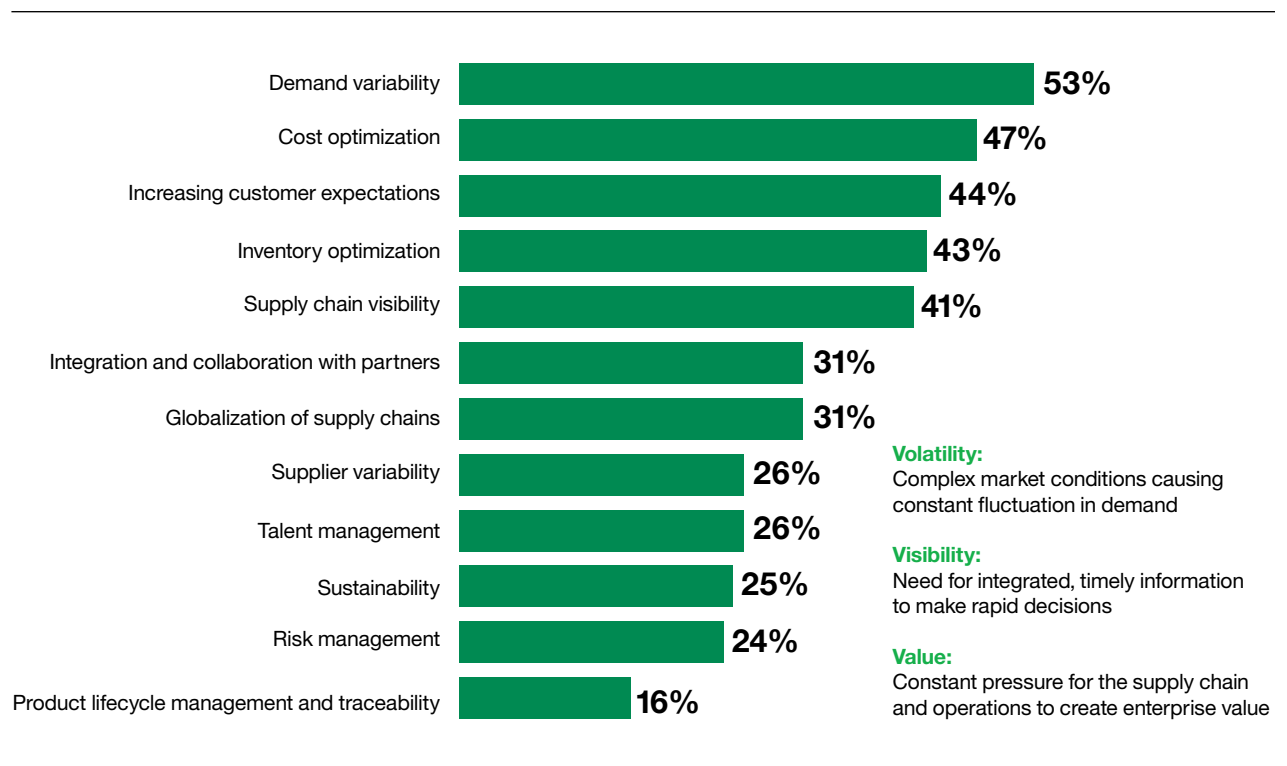


Figure 1: Demand variability, cost optimization and customer expectations are top challenges for supply chain managers.

75% of supply chain leaders say organizational silos impede interactions and visibility²

44% cite increasing customer expectations as a top supply chain challenge³

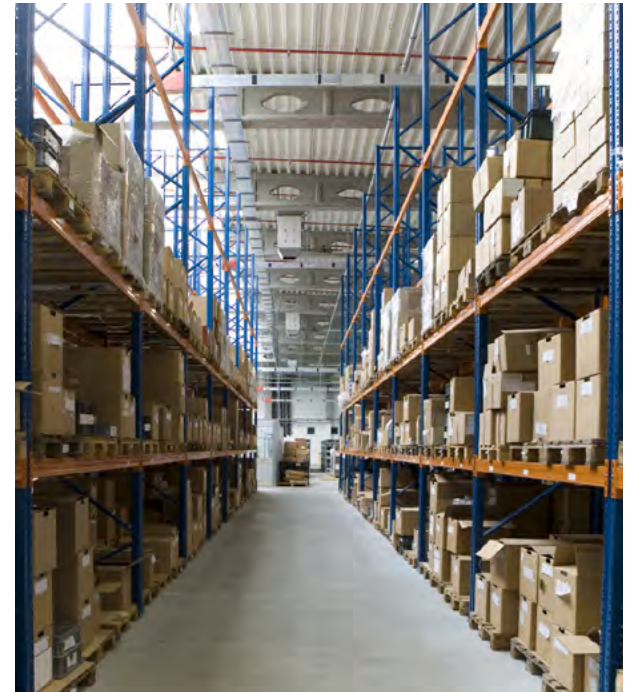
73% of companies regard value chain synchronization as critical to success⁴

Cost optimization is the second key challenge, cited by 47 percent of IBM respondents. A lack of visibility makes it difficult to manage and control costs across the supply chain, from procurement to warehousing and inbound and outbound transportation. Many enterprises are at the mercy of cost volatility, from spiking fuel costs to rapid wage inflation in previously low-cost labor markets to credit freezes and erratic commodity prices.

The two top challenges of demand variability and cost optimization bear directly on the third challenge of meeting increasing customer expectations, cited by 44 percent of IBM's respondents. Besides the desire for the "perfect order," today's B2B and B2C customers expect convenience, consistency and on-demand information throughout their interactions and transactions with your organization.

Just as importantly, customers expect goods to be available and returnable across all channels. They are accustomed to real-time information on websites, such as shipping status and availability of a product online or at a particular location. They want to be able to order on a smartphone, choose their shipping method and return a product by either shipping or physical locations. Most of these expectations have origins in the B2C experience, which is fueling similar demands in the B2B world.

To sustain advantage, supply chain leaders need to rethink how to adapt a host of complex processes to address these new customer demands.



The evolution towards customer-centric supply chain maturity

Despite the challenges, leading organizations are making strides toward mastering the complexity and volatility of today's supply chains to drive revenue and profitability while delivering a superior customer experience. These innovators have engineered agility to respond to demand signals from multiple sources, including sales and customer sentiment on social media. A Gartner study found that the 25 organizations with the best-performing supply chains worldwide grew revenues 29 percent in 2012 compared to 2011, with average return on assets and net profits each rising 50 percent.⁵

Video: Smarter supply chain management



Get insights from an IBM survey on trends and challenges that supply chain leaders face. Visit <https://ibm.biz/Bdxeju>

Yet such visionary organizations with quantifiable supply chain maturity are the exception, not the rule. IBM's study of supply chain organizations identified just 9 percent as "visionary" organizations. The majority (63 percent) are mid-level "planners" while 28 percent are in the most rudimentary level of "operators." IBM defines the categories as:

- **Visionaries:** Focused strategies and initiatives cover partner collaboration, analytics, risk management, network optimization, and demand-driven sales and operations planning (S&OP).
- **Planners:** These organizations focus on cost reductions, use network distribution planning, utilize dashboards to enhance visibility with key partners, and employ limited enterprise S&OP.
- **Operators:** Organizations in this category use rudimentary planning, work in inflexible structures and processes, and generally lack integration and visibility across interdependent processes.

Visionaries employ enhanced supply chain visibility, collaboration and analytics to address the critical challenges of demand variability and cost optimization. As illustrated in Figure 2, those leading organizations have enhanced their supply chain processes over a period of years and today are realizing significant financial returns, as well as resilience to managing disruptions.

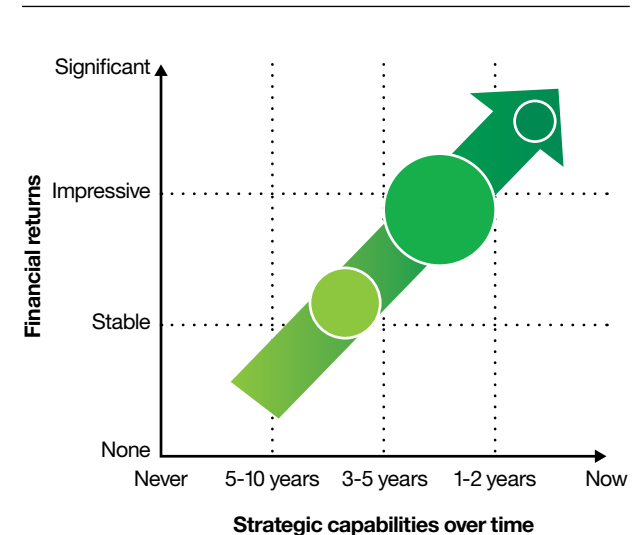


Figure 2: Strategic supply chain capabilities developed over time can deliver significant financial returns.

An integrated framework for an optimized supply chain

It doesn't take a decade or more to realize sizable returns from reorienting your supply chain processes to better focus on enabling a superior customer experience. With the availability of industry-specific best practices and services, and technology purpose-built for supply chain optimization, your organization can integrate both supply chain planning and execution processes.

Integration is key to faster, smarter decision-making and to delivering maximum results for your business—helping position your team to take advantage of opportunities to improve global visibility and analytics, foster collaboration, and improve performance, order, warehouse and transportation management. For example, performance data from supply chain execution systems should be channeled into the strategic planning process to improve order fulfillment and adaptation to increasing market demand.

With the right processes and technology, organizations categorized as “operators” or “planners” can progress toward visionary status.

Planning	Execution
Leverage a single source of data to assess competing supply chain options and courses of action	Collaborate with suppliers, partners and customers in an integrated B2B environment
Prepare disruption contingency plans with advanced analytics on historical and real-time data	Centrally manage multiple distribution warehouses and partners with localized execution
Weigh tradeoffs between costs, speed, service requirements to plan optimal approaches	Detect and resolve supply chain disruptions in near-real time across global networks
Evaluate inventory strategic positioning to improve order fulfillment performance and customer satisfaction	Enforce supplier compliance with immediate detection and chargeback calculations
Improve transportation utilization through strategic routing and fleet planning	Optimize inbound and outbound shipments by the most efficient transportation mode, route and carrier mix

Figure 3: Core objectives of supply chain planning and execution.

Just 24%

of value chain managers consider their collaboration with trading partners to be “very effective”⁶

Only 30%

of enterprise organizations have full integration with all members of their business community⁷

Just 32%

of companies share up-to-date order management and execution information across channels⁸

End-to-end visibility and analytics

Despite advances over the past decade, poor visibility remains endemic in many supply chains across all processes — demand, inventory, order management, the customer experience and more. The causes include data siloed across disparate applications and manual paper-based processes. Lack of integration with trading partners and their systems exacerbates the problem.

Few organizations have achieved the real-time insights needed to detect all disruptions in the supply chain and adapt accordingly. Inability to understand and respond to these disruptions across multiple entities leaves the supply chain vulnerable, jeopardizing the customer experience and the ideal of the perfect order. Addressing such questions as under- or over-reliance on suppliers and suppliers in a single geographic region is a first step to assessing exposure and managing risk.

Today’s complex supply chains generate too much data for spreadsheets and manual processes spanning disparate systems to absorb, resulting in blind spots and inability to detect and resolve exceptions in a timely manner. Visionary organizations have made end-to-end supply chain visibility a top priority, utilizing analytics and automation to detect anomalies, track performance and identify areas for improvement. Alerts directed to roles within the supply chain (warehouse, transportation and merchandising, for example) help accelerate response.

Often beginning by layering visibility atop existing systems, leaders are improving supply chain performance with service-based solutions that sit atop ERP, transportation, warehousing, inventory, order management and complementary systems. This analytics service layer supplies centralized access to all actionable data and a panoramic, cross-functional view with automated alerting to problems.

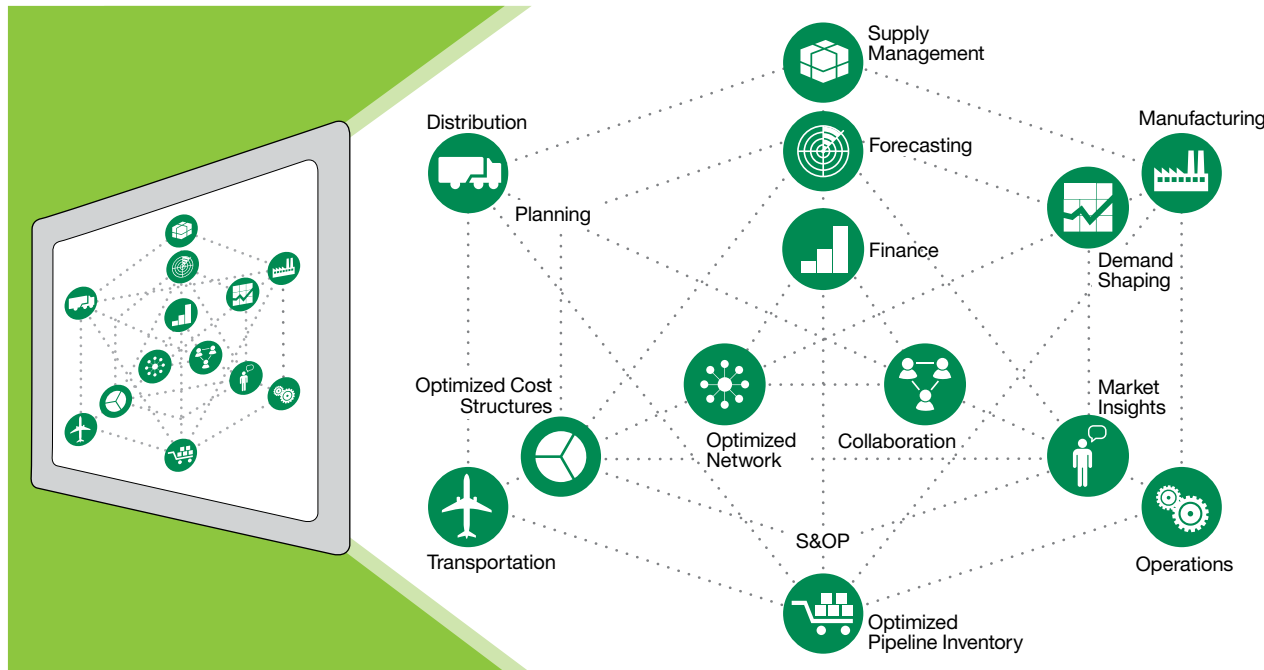
“The better data you have, the better decisions you can make. Having end-to-end visibility allows us to pick and choose the high priority alerts and then drill down into the cause of the alert.”

— Greg Linder, Director of Supply Chain Operations, True Value

Data-driven visibility is the single most critical element in realizing greater synchronization, agility and responsiveness in both strategic planning and tactical execution, making possible game-changing gains in such areas as:

- **Revenue.** Higher revenue through enhanced customer service, better analytics to capture market insights and avoidance of risks such as stock-outs.
- **Flexibility.** Enhanced decision-making for proactive strategic and tactical planning.
- **Speed.** Shorter customer demand response lead times and supplier lead times with real-time decision-making.
- **Cost efficiencies.** Lower pipeline inventory and carrying costs, lower labor costs through decreased handling and processing, lower channel inefficiency costs.
- **Risk management.** Decreased risk at all junctures and functions through reliable information supporting proactive risk identification and mitigation.





True Value

True Value customer success

True Value, the retailer-owned hardware cooperative with 5,000 stores and 12 distribution centers serving 54 countries, has reduced lead time variability, increased fill rates and optimized inventory availability by centralizing inbound processes on IBM technology and synchronizing the entire order lifecycle.

Figure 4: Analytics-driven visibility supplies a holistic view across all supply chain functions.

Partner collaboration and performance management

Collaboration with partners and suppliers offers a host of advantages—streamlined inbound receipt of orders by planning the allocation resources based on visibility into shipment status, orders packed in quantities as directed to accelerate the putaway process, or even cross-docked and shipped to a location closer to the end customer in a flow-through process.

Importantly, collaboration is vital to building the resilience needed to absorb inevitable disruptions. Yet with complexity increasing, trying to manage international partners and suppliers without the right technology and efficient processes makes collaboration challenging.

In fact, just 14 percent of supply chain leaders responding to an Aberdeen Group survey reported they had the ability to perform online trading partner collaboration.⁹ Innovators have made great strides in improving collaboration with dedicated programs and electronic data interchange (EDI) technology designed to exchange information in near-real time with suppliers and partners to optimize production, shipping, inventory and other aspects of supply chain operations.

Collaboration goes hand-in-hand with sound performance management of suppliers and partners. With a central solution to monitor performance in terms of time, cost, value and other metrics, your organization is better positioned to proactively detect problems, ensure compliance with standards, mitigate risk, swiftly take corrective actions, consolidate the supplier base and negotiate more favorable contracts.



Coca-Cola customer success

The Coca-Cola Bottling Co. uses IBM supply chain technology to integrate disparate systems and help manage 100+ trading partners, with visibility and monitoring to improve decision-making and rapidly address problems.

Order management

Delivering the perfect order has long been the ideal of supply chain managers and is central to customer satisfaction, but execution has its challenges. Most order management systems link to specific plants or warehouses without visibility across the full environment, making it difficult to provide an accurate promise date to the customer or to schedule orders to alternative fulfillment locations as circumstances dictate. The need to coordinate across channels to deliver a consistent customer experience across all touchpoints adds to the challenge.

In most organizations, order management plays two roles. One, it operates with a single view of customer orders across all channels to seamlessly manage those orders however and wherever your customer wants. Two, it manages your outbound orders to your suppliers and tracks the status and provides visibility into inventory either with the partner or while goods are in transit. With this information, order management can make sourcing decisions based on the customer expectations for delivery.

A coordinated and technology-driven approach to web-enabled order management and inventory integration pays off. Best-in-class leaders in retail supply chains achieve on-time order delivery of 96.4 percent with an average stock-out rate of 2.9 percent, compared to 91.2 percent on-time delivery and 7.9 percent stock-out for all others, according to an Aberdeen Group study.¹⁰ Yet overall, just 32 percent of companies share up-to-date order management and execution information across channels, Aberdeen found.

Capabilities for distributed multichannel order aggregation with global visibility make it possible for your supply chain to enable customers to order from anywhere, receive anywhere and return to anywhere. The best order management and fulfillment systems help to meet growing customer expectations to interact across multiple channels, through to fulfillment and returns, and extend your environment to encompass third-party logistics partners.



Dal-Tile customer success
Ceramic tile manufacturer Dal-Tile is reaping the rewards of streamlining the order management lifecycle while integrating with the overall supply chain.

Transportation management

Not long ago, transportation was considered a tactical concern—a necessary cost of doing business that had only a nominal effect on profitability. Yet the movement of goods is critical to the efficiency of global supply chains. Effective transportation management has now become a strategic initiative that can dampen the impact of rising fuel prices while helping to increase customer satisfaction through accelerated delivery and competitive shipping costs.

Leading-edge companies are reducing costs and improving order fulfillment and precision through new transportation management systems that support collaborative transportation planning and execution with carriers and customers. The ideal system has the potential to reduce shipping costs by up to 25 percent through optimized load building, carrier rate comparisons, contract compliance and streamlined inbound and outbound global transportation processes.

Rather than building a transportation system in-house, enterprises are looking to cloud-based multitenant solutions to enable more flexibility, better execution, global visibility, and instantaneous collaboration through a logistics network of thousands of carriers and suppliers. By streamlining transportation planning to execution and gaining real-time access to critical information across the entire transportation spectrum, you are able to increase productivity by eliminating manual transportation processes, improving service levels and increasing on-time delivery to meet customer expectations.



Sargento customer success

Sargento Foods uses IBM technology to reduce transportation costs by 15 percent, while cutting administrative costs 60 percent by automating freight payments.

Warehouse management

Warehouse operations should be flexible to accommodate changes driven by market requirements or supply chain disruption and to meet customer desire for value-added services such as postponement strategies, kitting and assembly, and specific packaging and labeling. Strengthening control over warehouse operations offers a way to minimize issues with excess inventory or stock-outs, delays in outbound delivery and fulfillment, poor labor allocation and high operational costs in both single-warehouse and multiwarehouse environments, whether domestically or internationally.

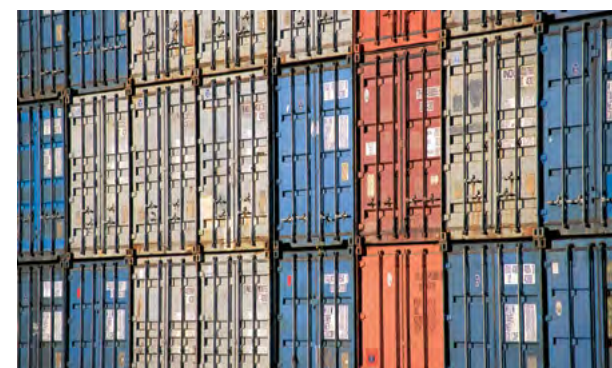
A single, flexible point of control enables the high degrees of planning, execution and continuous monitoring that complex supply chains need to meet the superior customer experience ideal. With leading warehouse management technology, supply chain innovators are avoiding limitations in first-generation systems of inflexibility after implementation, inability to respond quickly to process change requirements or provide new value-added services without major change, and supporting new facilities quickly where companies are holding inventory and providing a single view of all inventory.

Integrating with existing infrastructure and supporting radio frequency identification and other sensor technologies, the ideal solution gives managers new visibility to schedule and govern tasks, promotes optimal space utilization and helps ensure supplier compliance with standards. Lot number inventory tracking speeds item processing and retrieval, which can mean your customer receives goods hours or days earlier than otherwise possible.

Video: IBM supply chain solutions demo



See how IBM Smarter Commerce can help synchronize your supply chain in the face of volatility and risk. Visit <https://ibm.biz/Bdxejp>



Irish Dairy Board customer success

The Irish Dairy Board, the leading international exporter of Irish dairy products, uses IBM technology to improve collaboration with hundreds of global suppliers and customers, simplifying supplier relationships and meeting increasingly stringent customer requirements.

The IBM Smarter Commerce approach to supply chain management

Creating a smarter supply chain is imperative for companies that want to operate efficiently and differentiate themselves from the competition to win over customers. IBM Smarter Commerce supply chain management and optimization solutions give organizations the insights and control they need to reorient processes around the objective of better understanding and serving the customer. From planning to execution, IBM solutions are giving leading companies new capabilities to anticipate, control and react to demand and supply volatility within the supply chain.

IBM Global Business Services



Explore how IBM GBS can help optimize your critical supply chain operations. Visit <https://ibm.biz/BdxejQ>

With IBM Smarter Commerce, your organization can make its supply chain smarter—how and where you fulfill orders, how much inventory you should store where, and the planning and execution of your global shipments to meet customer commitments.



IBM Sterling Supply Chain Management

IBM Sterling solutions cover core processes of order, transportation and warehouse management, as well as partner collaboration and end-to-end supply chain visibility, allowing companies to focus on delighting customers. Key business outcomes include reduced supply chain costs, optimized inventory and return on assets, and enhanced customer experiences through reliable, predictable supply chain responses.

- Achieve full visibility across global trading partner networks to optimize inbound and outbound orders and shipments
- Coordinate order management and fulfillment from all channels and across the extended enterprise
- Optimize your supply chain network by planning and executing inbound and outbound global transportation
- Streamline warehouse operations while facilitating internal and external collaboration throughout your supply chain
- Collaborate with and manage suppliers and other trading partners to improve quality, speed and cost
- Detect and react to compliance issues as they happen throughout the inbound supply chain process



IBM ILOG Supply Chain Optimization

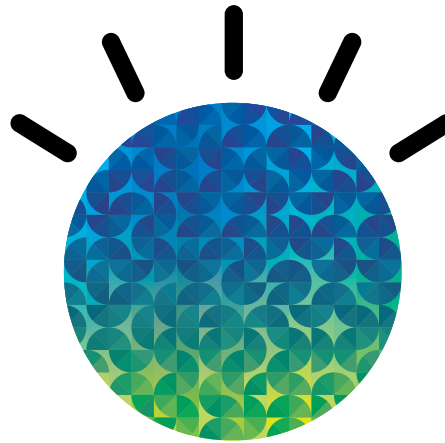
IBM ILOG® Supply Chain Optimization offers decision support solutions that help supply chain managers make better decisions faster, addressing global supply chain design, inventory and network optimization, vehicle routing, production planning and detailed scheduling.

- Manage business growth through ongoing strategic planning and production sourcing optimization
- Set and refine the best inventory flow and levels for inventory distribution
- Determine the right inventory policies and strategic positioning of inventory, optimizing safety stocks and inventory levels
- Optimize the utilization of your transportation assets with vehicle routing and shipment planning
- Solve complex industry-specific planning and scheduling challenges with out-of-the-box optimization capabilities and configurable industry modules
- Quickly build and implement process automation improvements to improve return on assets by integrating mathematical modeling with advanced analytics and optimization solutions

Smarter Commerce: An integrated approach

IBM Smarter Commerce is designed to help companies orchestrate the ecosystem to consistently deliver optimum experiences throughout the customer journey and drive profitable growth. It includes buy, market, sell and service processes that put the customer at the center of decisions and actions to improve customer loyalty, profitability and agility.

The IBM integrated portfolio for Smarter Commerce includes consulting and services, advanced analytics, infrastructure, managed services and a set of industry-leading solutions for the commerce cycle core business processes of buy, market, sell and service. Learn more at ibm.com/smartercommerce





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