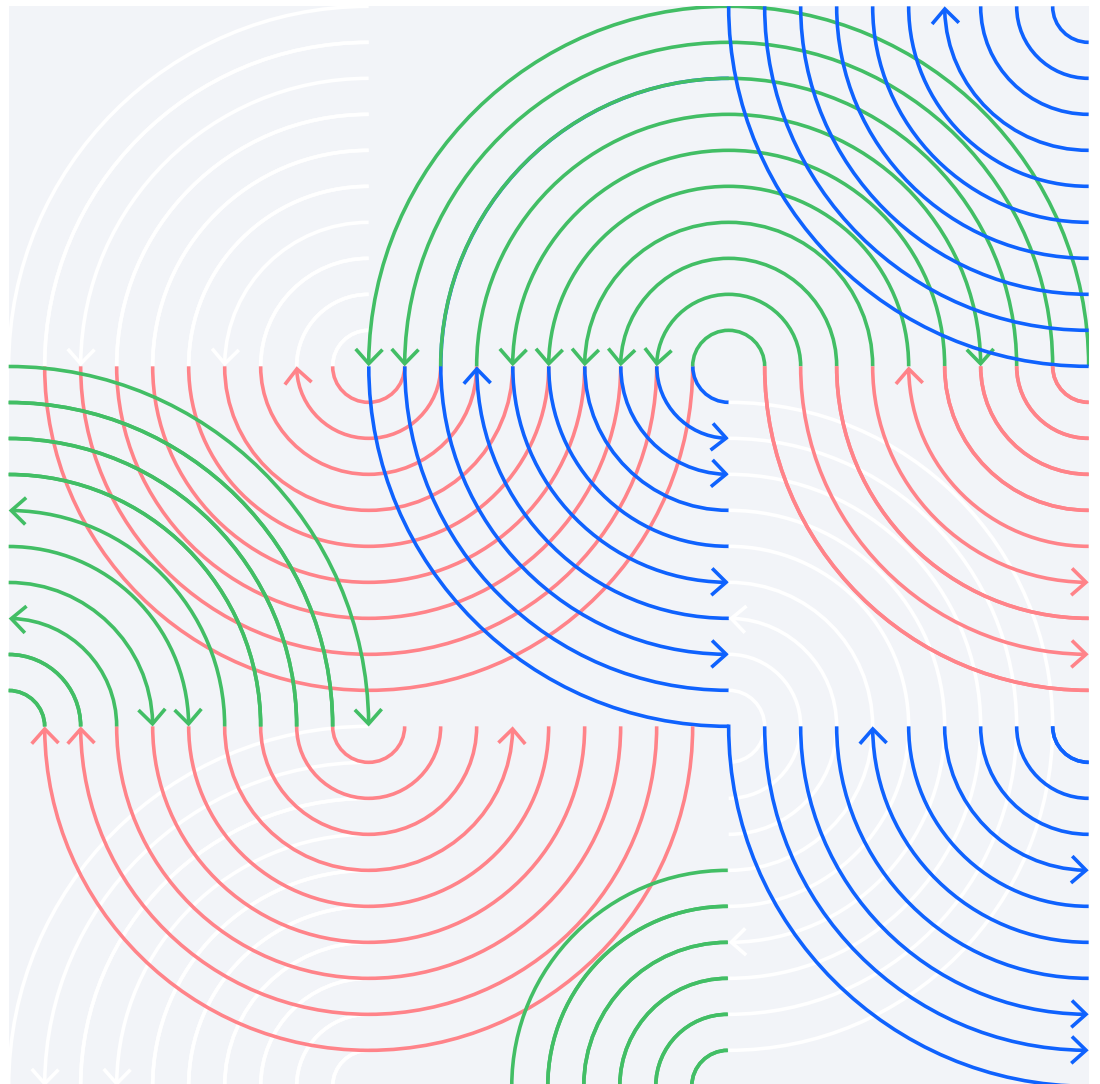# Building intelligent, resilient and sustainable supply chains

The new engines of transformation

Executive summary

It's an exciting time to be a supply chain professional. Recent challenges have prompted an industry-wide rethink, and leading companies are starting to realize that supply chains can be more than a cost to minimize — they now offer a once-in-a-generation opportunity to fuel strategic reinvention.

The next generation of supply chains will do more than efficiently move material from one place to another; they'll model and underpin resilient, agile and sustainable business operations.

They'll do this using the power of exponential technologies such as data integration, hybrid cloud, IoT and AI. With these technologies, the individual apps that run the supply chain can be modernized and connected, leading to game-changing abilities such as real-time visualization of the entire supply chain and AI-assisted management by exception.

Taken together, these modernizations contribute to digital transformation — inspiring, empowering and engaging your workforce to use supply chain capabilities to solve urgent societal and business needs. A transformed supply chain helps your whole organization respond in an agile fashion to challenges that arise and support new business models as they become necessary.

With the right strategy and support, you can overhaul your approach to supply chains, no longer seeing them as just an expense to be minimized or even a process to be optimized, but instead as key capabilities to transform the way your business operates.

Contents

The modern supply chain: an unprecedented challenge and opportunity

Across industries, supply chain transformations have the potential to increase resiliency, increasing bottom line profitability by capturing improvements such as 44% better asset utilization and 40% more accurate demand forecasts.[9]

This is the most exciting and challenging moment in history to work on supply chains. After years of responding to one emergency after another, chief supply chain officers (CSCOs) and other dedicated supply chain professionals are adjusting to a new normal — a world where supply chain challenges are a topic on the nightly news and there seems to be no end to potential future disruptions. However, this moment also presents a once-in-a-generation opportunity to reimagine what supply chains can be and how they can support a rapidly transforming business.

The unprecedented challenges of recent years have stressed supply chains that were already weakened by decades of optimization to lower costs. Unlike the vertically integrated supply chains of old, modern supply chains were expected to knit together hundreds of first-tier suppliers and thousands of suppliers overall, delivering goods just in time in a way that is efficient, secure, reliable and cheap.

Enterprises arrived at this status quo gradually. In the 1980s and 1990s, the rise of global free trade led to the emergence of the first truly integrated global supply chains. The ability to tap new low-cost labor forces — combined with historically low energy prices — gave rise to incredibly complex and long-distance supply chains. The parallel emergence of global enterprise resource planning (ERP) systems gave large enterprises the ability to operate these supply chains with confidence. For years, demand and supply remained largely within predictable patterns. The 2008 financial crisis brought the first major demand-side shock, but supply chains were able to recover without serious difficultly. After the Great Recession, economic pressures drove supply chains to be even leaner and lower cost. Then the COVID-19 pandemic and other events in the early 2020s posed almost the perfect combination of factors to disrupt modern supply chains.
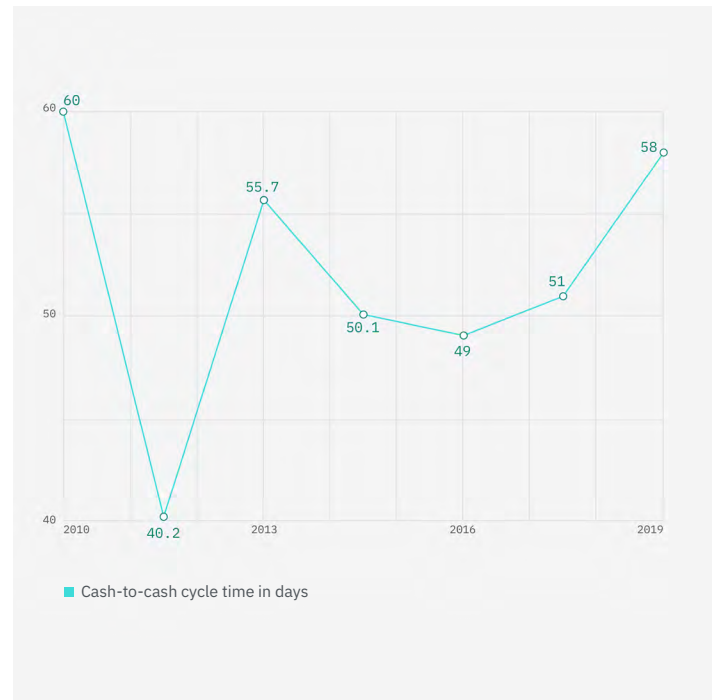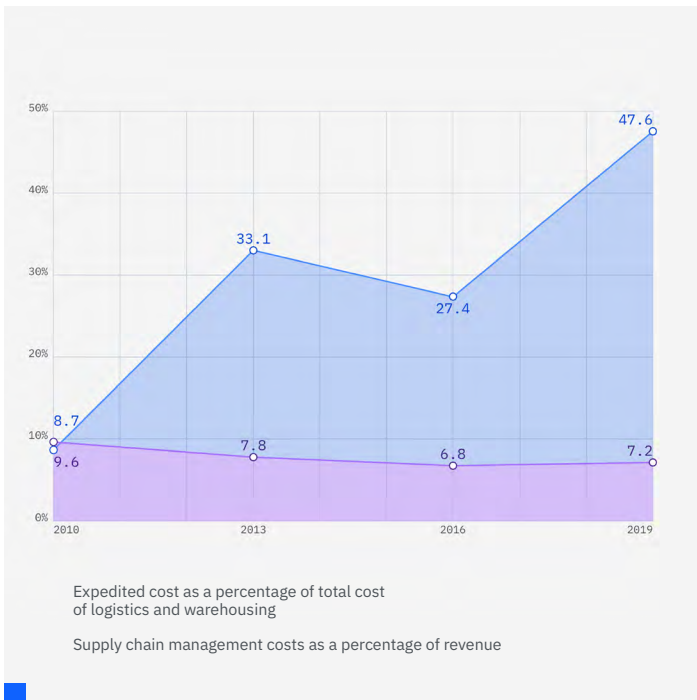
Figure 1. Supply chain performance KPIs
over the decade to 2019

The weaknesses developed over 40 years of evolution became impossible to ignore. With less redundancy, small disruptions or supply and demand mismatches caused ripple effects — the bullwhip disturbance that starts small and increases in severity. With extended and more complex supply chains, it was easier to lose track of where materials are, harder to know the details of all your suppliers, and tougher to change your approach in response to changing conditions. This type of supply chain has proven brittle and inflexible in the face of disruptions, such as those caused by pandemic, labor shortages, inflation, currency fluctuations or geopolitical instability.

Figure 1 shows that these weaknesses were already apparent in the 2010s. Toward the end of that decade, cash-to-cash cycle time and cost as a percent of revenue were both trending up, even as expedited cost skyrocketed.[1] To succeed in the future, companies everywhere must move beyond cost-driven thinking and consider how their supply chains can deliver strategic and technological advantages.

Early adopters of digital supply chain transformation such as Apple, Amazon, Target and Walmart have risen to the challenge and leapt ahead of the competition. They've shown that the next generation of supply chain professionals will need to embrace several new mindsets:

- Shifting focus from pure cost optimization to delivering better customer experiences and driving growth
- Eliminating data silos to optimize end-to-end performance within each chain and across a broader supply chain ecosystem
- Using connected supply chain data infrastructures to operate with near-real-time information
- Using analytics, machine learning and AI to look ahead and run supply chains on a predictive and proactive basis

Taken together, these new technologies and ways of thinking about supply chains will differentiate leading companies and deliver superior business outcomes.

Future supply chains can support resiliency and sustainability

Next-gen supply chains won't just efficiently move
material from here to there — they'll underpin truly resilient,
sustainable business operations.

The recent supply chain crises have made clear that it's no longer enough to seek lowest cost and good-enough service. By implementing smarter technologies and integrating multiple data sources, you can increase your real-time understanding of your supply chain and adapt it, with agility, to real and expected disruptions. With better performance and adaptability, the supply chain can support resiliency and sustainability at the same time. With the right strategy and support, your supply chain can become an intelligent, responsive workflow that enables new ways of doing business and generates unique advantages for your company.

This is already happening broadly in the B2C space, where leading companies are using improved supply chains to deliver differentiated customer experiences. Their efficiency is important, but equally important is the frictionless nature of transactions they enable. Consumers receive personalized recommendations. Orders are processed and shipped efficiently. Order status is constantly visible, and easy remediation options are available if something goes wrong.

Compare this experience to the typical B2B supply chain transaction and the difference is stark. It's common to have low visibility of where a shipment is, when it will arrive or even precisely what it includes. Remediation options can be slim. Communications are slow. B2B customers have taken notice. Given their experience as private consumers, they expect better. And that's actually good news: B2B supply chain operators have an enormous opportunity to differentiate themselves and gain significant advantage by using new supply chains to support a personalized, B2C-type experience for B2B customers. Even rudimentary customer experience improvement efforts bring measurable returns, such as an 18-point NPS score improvement and an almost 6% increase in sales revenue.[2]

This emphasis on better B2B performance comes alongside a new and welcome focus on sustainable operations. Two-thirds of companies are embracing sustainability as a core business value, and US Fortune 500 companies are already willing to invest USD 22 billion per year in sustainability initiatives.[3] The desire for sustainability is clearly present. Yet different businesses or different parts of a business may pursue sustainability in different ways. Sometimes sustainability references straightforward environmental targets such as emitting less CO_2 or other pollutants. This is important, given that supply chains can be responsible for over 90% of a typical corporation's emissions.[4] However, sustainability can and should involve more than simply lowering emissions. For example:

- Limiting use of physical resources such as fuel or packaging
- Implementing robust environmental, social and governance (ESG) policies
- Improving metrics such as air quality, water quality and biodiversity
- Committing to employees' long-term wellbeing

Taken together, the goals of price stability, better resiliency, new functionalities and better sustainability metrics may seem incompatible. But they're not. The solution is to use integrated data to modernize and ultimately transform supply chains.

Transform by modernizing supply chain technologies and applications

US Fortune 500 companies are already willing to invest USD 22 billion per year in sustainability initiatives.[3]

To achieve their diverse and challenging goals, supply chain professionals need to embrace new uses of data, instrumentation and applications, beginning with a new understanding of supply chain strategy. Nearly three-quarters of CSCOs already understand the strategic value of data and seek to integrate data from multiple sources to inform their decisions.[3] However, understanding the value of data and actually getting that value are two different things. To achieve meaningful results from integrated data, the transformation must be led by the executive team and supported by the right IT.

The transformation process should start with a broad view of what the supply chain can accomplish, working backward from current and future customer needs and using design thinking and a co-creation method to work with partners and jointly develop new solutions to meet those needs.

Implement hybrid cloud

Modernizing your infrastructure to include hybrid cloud is often an essential first step toward any new supply chain solution. Today's enterprises have likely grown through partnerships, mergers and acquisitions, resulting in complex and siloed systems and data. In fact, "60% of business leaders with a responsibility for data in their organization describe data silos as a top barrier to better capturing, analyzing and acting on data."[5] In a siloed environment, data is confined to point solutions and spreadsheets and "presents a hurdle to tracing tiers of the supply chain."[6]

As a result, there's no single source of truth for the organization, and it's common to have data that is incomplete, inaccurate, outdated or invalid. When this occurs, exception processes flourish as employees work outside of core systems, trying desperately to get their work done using whatever data they can find. This state of affairs is toxic for smooth supply chain operations. Maybe that's why 74% of CSCOs say that hybrid cloud integration is crucial to accelerating and enabling the digital transformation of supply chains.[3]

Hybrid cloud infrastructure can address the problem of data silos. It connects the entire toolkit for supply chain transformation, bringing together data for real-time data accessibility, agile and resilient workflows, automation, scenario simulation and more.[3] Organizations have historically done amazing work to optimize supply chain performance in silos, but if you want an effective, integrated, sustainable end-to-end supply chain today, the various technologies and tools need to communicate with one another to generate an overall picture of supply chain operations, both within and beyond your organization. Hybrid cloud is the enabler of that data exchange — infinitely scalable, robustly secure and resilient against geographic threats. A hybrid cloud platform connects different data resources and tools from different providers, allowing you to choose best-in-class solutions regardless of where they reside.

Support the best apps

In the experience of IBM Consulting™ experts, many supply chain operations are still highly dependent on manual processes and spreadsheets. These manual processes aren't scalable, repeatable, automatable or easily transferrable to another person. Successful organizations need to change this foundation. Instead of using a single tool such as Microsoft Excel to track and manage data for every function, they should deploy fit-for-purpose tools to improve and automate individual processes. These tools can include:

- Industry-leading supply chain tools for specific needs, such as process design, customer relationship management, risk data management, logistics and warehousing
- Natural language search and discovery tools such as IBM Watson® Assistant
- Visualization and process mining tools to analyze how processes are running in SAP, Oracle or another ERP
- Customized solutions developed and deployed in the business over time, preferably on the cloud and outside of the core ERP systems

There are two important points to consider with respect to these tools and their capabilities. First, many of the tools include automated capabilities to make data collection and analysis easier. For example, an automated risk monitor can crawl the supplier network to identify risks and disruptions, as well as suggest proactive mitigating action. But simply moving from a custom-built spreadsheet to an industry-standard tool brings enormous capability benefits, even if the tool itself is not literally automated. Every time you can remove a custom exception process and move multiple professionals onto the same tool, you reduce manual work and increase repeatability and efficiency.

Make your ERP fit for purpose

When you use a hybrid cloud approach, your existing ERP systems won't necessarily need to change, but you will be able to integrate data from all your systems to support new avenues for analysis and optimization. That data integration alone brings tangible benefits. For example, when a global chemical company optimized their purchase-to-pay workflows, they freed up USD 50 million in working capital and achieved earlier payments to suppliers.[3]

Modernization is also a good opportunity to review and update your backbone ERP tools from SAP or Oracle and move to a modern cloud ERP architecture. Modernization offers an opportunity to rethink your requirements and redesign processes, often reducing complexity and cost. Putting all your systems on a hybrid cloud can prompt you to combine intelligence that's internal to your operations — such as data from transactional and historical systems — with intelligence from the outside, based on data such as risk conditions and consumer sentiment. By seeking out integrated insights, you can rethink your customer experience offerings and reshape your supply chain to support them.

By modernizing your IT infrastructure and the apps that support supply chain operations, you enable a thorough transformation of supply chain capabilities to align with a holistic supply chain strategy.

Unleash the exponential power of cloud, data and AI

The B2B organizations that emulate the B2C customer experience first will have a profound competitive advantage.

Hybrid cloud infrastructure gives you the foundation and the integrated data environment necessary to apply transformative exponential technologies to your supply chain problems. Supply chains are a workflow, and as such can be made more instrumented, interconnected and intelligent. Many technologies, such as Internet of Things (IoT) data, geospatial data, analytics and AI, have proven their worth in other areas of the business and should be applied to supply chain operations as well. When deployed in parallel, these technologies build on each other's strengths, offering exponential improvements to the overall supply chain experience. Let's consider two cases where the combined strengths of multiple technologies become evident: the digital twin and AI enrichment.

Increase supply chain visibility with a digital twin

A digital twin model visualizes and simulates in real time the activities of the company's own supply chain as well as upstream suppliers and downstream customers. It achieves this by incorporating varied sources of data, such as IoT instrumentation, weather and geospatial tracking along with ERP and transactional data. When paired with a control tower — a personalized dashboard of data, metrics and events for the entire supply chain — this model offers unprecedented visibility and transformative power. With a digital twin, you can see real-time activity in orders, shipments and deliveries; be proactive in orchestrating that activity; and even simulate the consequences of proposed changes before implementing them.

As a result, a digital twin delivers many benefits for improving supply chain operations. To name a few examples:

- A telecommunications operator could use geospatial tracking to know the precise location of multimillion-dollar pieces of field maintenance equipment, allocating them as required or even positioning them where they're likely to be needed ahead of weather events.
- By linking geospatial tagging with weather data and logistics inputs, a pharmaceutical company could monitor quality control for vaccine shipments and predict potentially hazardous situations where shipments would be delayed in warm areas. Cross-referenced IoT sensors and tagging could provide proof of cold chain conditions throughout the journey.
- An electronics OEM could use a digital twin to predictively manage shipments from remote factories through delivery to customers anywhere on the planet. Embedded predictive algorithms could identify real-time deviations from expected deliveries, alerting the responsible people to take corrective action that is invisible to customers. The outcome is an enhanced customer experience without unnecessary expediting costs.

Take advantage of AI to enrich insight

The digital twin is one example of the improved functionality and flexibility that are possible with an integrated, automated and visible supply chain data foundation. Once that foundation is in place, an AI layer can exponentially expand the potential of virtually every improvement, from demand forecasting to logistics to warehousing to search.

At its core, an AI system monitors and integrates both traditional data sets — such as historical patterns and inventory and sales figures — and nontraditional data sets, such as written documents, weather data and news sentiment. It then trains algorithms to make associations between unexpected and unseen points of data, and bring to the surface valuable insight that matches your current need. Again, the most relevant improvements will be unique to your organization's circumstances, but here are some examples of AI-powered enrichment that deliver great value to supply chains:

Demand sensing and prediction
An AI model can ingest multiple traditional and nontraditional data sources such as demographics, local events, weather and ordering patterns, and predict how demand is evolving in near real time on the scale of hours to days. AI-driven insights can also predict demand with high levels of accuracy based on trends that might not be apparent to individual consumers. For example, ambient temperature forecasts, community events and promotions correlate very closely with demand for impulse-buy products such as carbonated beverages. Improved forecasting gives your business more ability to better meet consumer demand at a local level, leading to higher loyalty and revenues.

Intelligent planning and risk mitigation
Predictive insights empower businesses to make decisions in near real time in response to events. This ability has traditionally not been nurtured in supply chain operations because the necessary data and ability to understand the data weren't available. But today, with supply chain digital twins, AI can monitor the real-time occurrence of disruptive events and use predictive algorithms to better manage the impacts of disruptions. Supply chain personnel can take a much more proactive role in mitigating risk — and allow management to build policies that encourage and reward agility.

**Business benefits of a
supply chain transformation**

↑ 95%

increased efficiency in resolving
persistent challenges[10]

↑ 40%

more accurate demand forecasts[9]

↑ 44%

better asset utilization[9]

↓ 10%

reduction in structural costs seen by
IBM with intelligent supply chains[10]

73% of CSCOs understand the strategic value of data.[3]
60% of business leaders with a responsibility for data
describe data silos as a top barrier.[5]

Natural language interaction
A natural-language-equipped AI search tool can extract insights from large and seemingly unconnected data sets. For example, you can ask, "This particular airport is shut down. What are the implications?" The tool will return info about which suppliers' and suppliers' suppliers' shipments transit through that airport, as well as analyze which products are affected and which outstanding orders will be impacted. Getting such an integrated picture of the consequences of a disruption would eliminate latency of response and give your company a better chance of meeting your customer service goals, without additional costs.

AI functionalities are increasingly available as prebuilt engines that can be trained rather than needing to be written anew. For example, IBM has developed a demand sensing solution that combines different data sets, including proprietary weather data. This solution replaces the traditional monthly demand forecast with a responsive forecast updated weekly or daily. Furthermore, this solution can be deployed in three to six weeks for either B2C or B2B functions.

Because AI models can be trained and replicated, AI-powered processes can quickly scale. So, by applying AI-enabled process analytics on nine process areas across five systems, a global oil and gas producer designed and reconfigured its enterprise asset management processes. This allowed the company to transform and modernize its asset and investment management portfolio and capabilities while harmonizing processes globally.[3]

Improve resiliency, security and sustainability together

The data foundation and the modernized application suite it supports can power improvements such as the digital twin and AI enrichment. However, where this really affects your organization's bottom line is by improving organizational qualities such as supply chain resiliency, downside risk, IT security and organizational sustainability.

The common quality that supports improvements in all these areas is digital transformation: the continual process of adapting to changing business circumstances through the smart application of integrated technologies. The specifics of how these apply to your supply chains will be unique, but here are some examples to inspire your thinking about the possibilities.
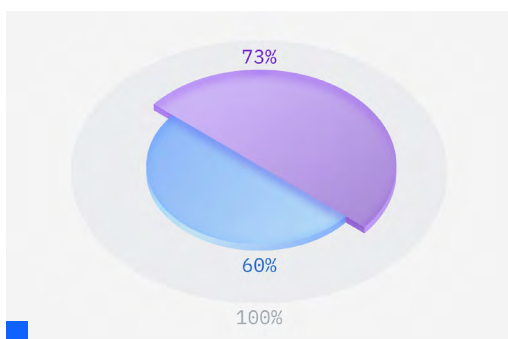
Increased functionality and flexibility depend on creating a truly integrated data environment.

By integrating diverse data sources and applying AI, IBM's supply chain transformation led to 95% greater efficiency in resolving persistent supply chain challenges.[10]

Resilient supply chain operations are top of mind for every professional. In a recent survey of senior supply chain and procurement execs from the US and Europe, two-thirds reported revenue hits of between 6% and 20% due to supply chain disruptions.[7] Fortunately, about half of supply chain professionals are already starting to adopt technologies to address these needs.[8] This adoption can take different forms depending on the typical challenges felt in different industries. For example:

- Pharmaceutical and life sciences companies are responding to the threat of revenue loss from supply disruptions by rapidly digitizing operations, reducing time to market and introducing risk and resiliency initiatives.
- Consumer packaged goods and direct-to-factory companies are responding to input cost rises and the expansion of e-commerce by investing in inventory visibility, demand sensing and demand forecasting.
- Industrial and manufacturing companies are trying to align production to demand by improving their SKU mix and pivoting to demand-driven supply chains.

Across industries, supply chain transformations have the potential to increase resiliency, increasing bottom line profitability by capturing improvements such as 44% better asset utilization and 40% more accurate demand forecasts.[9]

In addition to these operational benefits, improving your data foundation, modernizing applications and increasing supply chain visibility can reduce the risk of security breaches. When connections between IT and operational tech (OT) systems are well understood and a single source of truth is available for all users, the unified data environment massively reduces security vulnerabilities. Moreover, using cloud-based applications from established vendors offers more robust security than traditional on-premises applications. A weak software supply chain in the enterprise, for example, can negatively impact enterprise security — especially now, with more remote workers accessing enterprise applications. Unknown connections and widespread exception processes are a major challenge for security professionals, and reducing them is almost always a net security benefit. Furthermore, the ability to simulate changes to the supply chain technology before applying them to the production supply chain provides a valuable opportunity to identify and correct security flaws before they occur.

And the same technology foundations that improve resiliency and security also support sustainability goals at both the micro and macro level.

As a straightforward improvement, you can apply AI tools to help optimize metrics such as miles traveled or labor hours needed for a particular shipment. But with real-time visualization and simulation you have dramatic new paths to improving sustainability. For instance, you could identify a supplier's supplier that engages in harmful mining practices and make a strategic decision to shift procurement away from that source. You could associate product expiration dates with in-transit orders, helping you utilize older stock first and reducing rates of spoilage. Or you could predict upcoming surges of demand for products, allowing you to ship by more environmentally friendly rail instead of rushed air freight. The results bear this out: companies that transformed their supply chains experienced 32% reduction in CO_2 emissions and 18% reduction in material waste.[9]

The core improvement that supports all these goals is a better understanding of the supply chain's inputs and externalities. The inputs are complex, spanning raw materials, work hours, computing resources, funding and more. But the externalities are even more complex — not just the supply chain's deliverables but more remote consequences such as pollution or poor health outcomes due to medication shortages caused by supply chain failure. This layered understanding emerges from better visibility and enables better planning. When you understand the source of supply chain stressors, that understanding can guide possible responses that will improve operations and satisfy your customers. As IBM has demonstrated in its own supply chain, you can achieve these goals through better instrumentation, integration of data, analytics, predictive technologies and real-time digital modeling of supply chain activities.

Transforming IBM's supply chain

IBM's own global supply chain[10] for IBM Systems hardware includes strategic facilities and capabilities worldwide. Together these support hundreds of thousands of deliveries to customers as well as ongoing service and network maintenance requirements. The IBM supply chain team implemented AI to predict and pinpoint disruptions and prescribe best actions to optimize throughput, cost and quality. The team also integrated IoT sensors for real-time precision tracking and infused other technologies such as automation, visual insights, augmented reality, IBM Blockchain™ and edge computing. The new supply chain workflow is better prepared for a world in which significant disturbances are more common.

The supply chain transformation resulted in:

- Reduction of disruption mitigation timeframe from days to hours
- 95% greater efficiency in resolving persistent supply chain challenges
- 10% reduction in supply chain structural costs

Empower a new generation of supply chain talent

73% of CSCOs understand the strategic value of data and seek to integrate data from multiple sources to inform their decisions,[3] yet "60% of business leaders with a responsibility for data in their organization describe data silos as a top barrier to better capturing, analyzing and acting on data."[5]

The transformation in supply chain operations rests on several key technologies, including hybrid cloud infrastructure, automation, digital modeling and AI. However, all of these technologies depend on an engaged and empowered workforce.

The new integrated supply chain strategy empowers people to change how they work. Redesigning processes means you can add automation, deliver insights and enrich with AI to help people be more proactive, to respond to signals in the path of their work rather than needing to follow outdated procedures. Automation and augmented intelligence can uplift people and recalibrate the role of a supply chain pro by vastly reducing rote transactional work and demanding a focus on proactive decisions that truly drive differentiated performance.

Adopting fit-for-purpose tools not only makes internal workflows more efficient but it satisfies the expectations of talented digital natives who want to work with modern tools and data, rather than figure out a legacy process. Moreover, integrated technologies offer one solution to the problem of knowledge retention. As a generation of supply chain professionals leaves the workforce, their invaluable experience can be lost. However, AI tools can ingest and understand historical documents and recordings in natural language. This captures institutional knowledge and experience, and even provides a mechanism to quickly surface relevant experience in response to unusual events.

And finally, the role of supply chains in furthering ESG priorities has the potential to be inspirational to a new generation of talented professionals. Rather than simply being a race to the bottom where minimizing expenditure is the only KPI, a supply chain career can now be a cornerstone of an organization's mission to enact worthwhile social goals. A transformed supply chain is the solution if you want to advance sustainability, increase efficiency, anticipate emerging social trends, divest from problematic suppliers, or source materials from preferred partners.

Embrace an agile world of nonstop transformation

A better understanding of real-time operations helps you prevent problems, respond with agility and support new business models.

The world is entering a new age of supply chain transformation that will involve widespread investment in new technologies and processes. The crises of the early 2020s forced the issue but also revealed how quickly exponential technologies can radically transform and uplift traditional supply chains. Investments in these technologies will support improvements that go far beyond the simple efficiency metrics of lead time and component delivery. For example, they can help improve the supplier network and support new, more agile business models.

Create a better supplier network

A transformed supply chain can have a beneficial impact on the entire supplier network. Think of improving your organization's own supply chain performance as the first level of progress. The next level entails building relationships with certain key suppliers, integrating systems on common standards to make demand sensing and order fulfilment less labor-intensive and more efficient. 26% of CSCOs are already planning to do this by 2025.[3] This model approaches the benefits of the vertically integrated supply chains of old, but without actually requiring single ownership of all suppliers. Rather, it integrates multiple supply chains around a common set of best practices.

Support new business models

Supply chain transformations enable new business models that rely on accurate demand sensing and ongoing support for products. Product as a service models stretch the limits of the traditional supply chain concept. Instead of simply producing a product, delivering to consumers and being paid for it, as-a-service business models maintain an ongoing relationship with the consumer and deliver necessary services based on usage monitoring. So when the consumer needs a replacement item or maintenance on capital equipment, the original supplier must be ready to provide it immediately. To achieve this, the supplier must integrate data about usage, field conditions and more to be able to predict demand and fulfill ongoing obligations. A digital twin is essential to integrate this level of service and support visibility into supply chains.

Capital equipment as a service and device as a service are recent examples of business innovation made possible by better supply chain performance. It's impossible to predict every business innovation of the coming years, but it's likely the future supply chain landscape will look very different than it does today. Given the probable pace of innovation and disruption, the essential step must be to embrace nonstop transformation. Transformation is a mindset to adopt, not a program to complete. And whatever the future challenges may be, it's certain that efficient and intelligent supply chains will be essential to addressing them. In the future, fortune will favor supply chain leaders who embrace these new paradigms and nurture the agility needed to respond to unpredictable events.

Choose the right partner for success

Even though the strategies, tactics and tools for supply chain transformation are widely applicable, the choices and steps you will need to take are unique to your organization.

For a successful supply chain transformation, businesses need a partner that can address all these requirements end to end, not only setting the right strategy but bringing it to life alongside you. An ideal partner should be able to connect the dots across the supply chain, from supply to demand and fulfillment. This partner should also contribute deep expertise in industry and understand technology, data, analytics, implementation and outsourcing. For example, IBM Consulting offers:

- A commitment to open technologies, meaning we work with the best-in-class hyperscalers, ISVs, technologies and platforms that suit your business needs
- Organization and commitment around clients: teams are customized for whatever you require, regardless of technology, industry or location
- Leadership in strategy for emerging business models and back-office transformation
- Talent and skills development for transformed and agile ways of working
- A proven model for collaborative problem-solving: the IBM Garage™ method
- Expertise from IBM's own in-house supply chain experts, who have overseen a transformation of IBM's own supply chain for the USD 10 billion IBM Systems hardware business

Supply chain transformations can't be one size fits all — the challenges involved are too complex and too individualized for that. Instead, clients should work with a partner who will co-create their transformation journey in an efficient and iterative way. That's why IBM Consulting is organized to deliver an end-to-end experience from ideation to implementation.

Next steps

If you want to learn more about transforming your supply chain and enabling more resilient, agile, sustainable and competitive business practices, visit our website today: ibm.com/services/supply-chain

Schedule a call with an expert to discuss your supply chain challenges one-on-one. https://www.ibm.com/services/supply-chain?schedulerform=

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