



# Building supply chain resilience through digital transformation

**Significant supply chain disruption was caused by COVID-19, requiring leaders to right-size their operations and embrace digital capabilities that protect supply chains against future disruptions as we enter the new reality after COVID-19. Companies from all industries are doubling down on investments in advanced technologies - from blockchain to artificial intelligence (AI), to machine learning and intelligent automation—which has proven to be the lifeblood of the organization.**



**Even in the midst of a pandemic, the good news is that a push to accelerate digital transformation will be rewarded by newfound agility.**

Jérôme Thirion, Partner, KPMG in Canada

## Lessons learned from the pandemic

COVID-19 disruption to trade caught many off-guard, causing disruption in the supply chain. Global lockdowns brought fragile domestic, regional, and global supply chains to a grinding halt. The initial outbreak underscored how much of the global economy relies on China.

Along with increased international trade and interconnected supply chains came hyper-efficient, just-in-time supply models. As COVID-19 hit, few companies had redundancy in their supply chains to weather a disruption of more than a few weeks. Of course there are trade-offs with any business strategy. There are embedded costs to carry extra inventory, to invest in back-up supply chains, or to manufacture closer to the customer base. Changing your supply chain mantra from efficiency and low-cost country sourcing, to focus more on supply chain resilience and visibility can help future proof your supply chain and reduce complexity and uncertainty across the network

We've been shown that resilience against unpredictable, dramatic events require strong business models enabled by a robust digital backbone and processes that can pivot rapidly. But how specifically to accomplish that? Although the specifics of every company challenge are different, this paper highlights the broad steps that can help businesses enhance their supply chains, regardless of their digital maturity and transformation journey.

## Every disadvantage has its advantage

The pandemic allowed the rare opportunity for a reset. Now is the time to put a relentless focus on the customer centric, data enabled, digital technology that many companies had good intentions to implement prior to COVID-19, but deferred due to fragmented efforts, legacy systems, or other factors.

Historically, manufacturers have experienced competitive challenges in local markets due to relatively higher labor costs. That has been partly mitigated by investment in automation, digital enablers and advanced technologies. Furthermore, COVID-19 has brought back an emphasis on boosting local manufacturing for critical industries, compounded by growing unemployment and consumer desire to support local business. There's suddenly momentum to start building supply chains anew.



**While negative effects are obvious, COVID-19 can be used as a platform to gain deeper understanding of strategic operations and supply chains.**

Manish Singh, Managing Director, Supply Chain & Operations Advisory, KPMG in the U.S.



**The supply chain mantra is changing from efficiency and low-cost country sourcing, to supply chain resilience and visibility to reduce complexity and uncertainty. The acceleration of digital transformation is key to that new way forward.**

Henry Brunekreef, Director, Operations Advisory and National Leader, Supply Chain Management, KPMG in Australia

## Digital acceptance is the new norm

Consumers expect a personalized experience – such as product recommendations and communications – and are willing, if not downright preferring, to have that experience be digital.

Online technology allows your doctor to see, diagnose, and treat you virtually – all from home. We also see life science companies are moving away from traditional sales reps going door-to-door and using digital salesforce automation. A survey by UBS found that almost 40% of respondents in China increased online shopping in early April, higher than during the worst days of the crisis, and three-quarters of them said they planned to keep up the habit in the future.<sup>1</sup>

This aligns marketing, operations and sales teams onto a single platform, alongside 24/7 training, sales forecasting, physician communications and analyzed customer data throughout the customer lifecycle.

This integration allows real-time visibility to make better decisions and can reduce operational cost.

The broad emergence of stay-at-home orders further pushed the digital trend as millions suddenly found themselves working remotely, using digital systems to collaborate and support their work, while millions of others were home-schooled using online learning technologies. In the evening, after work and school hours have ended, those same people are streaming videos.

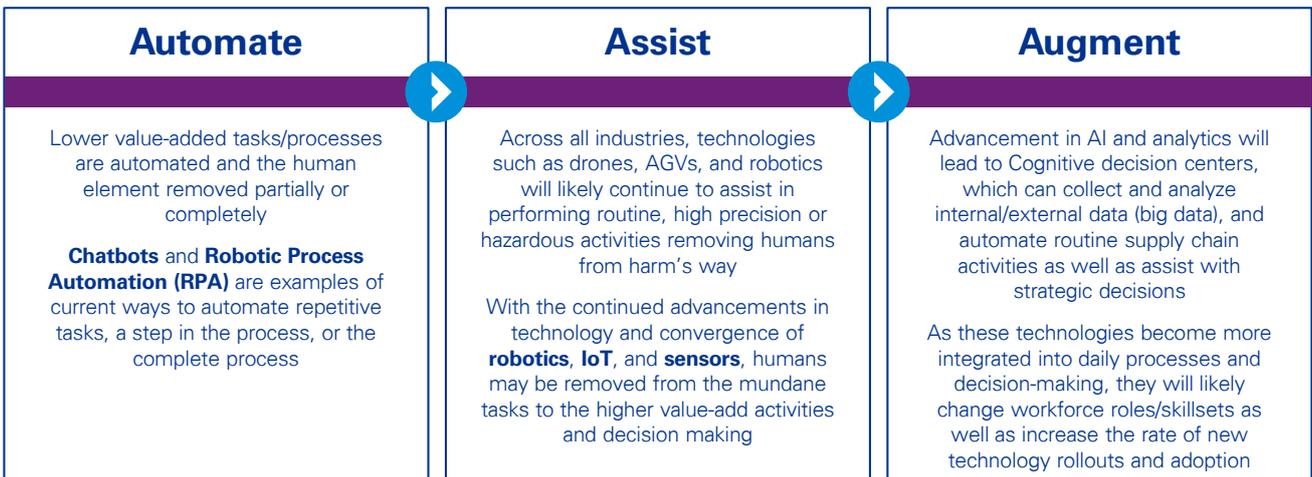
Many of these changes in patterns are expected to continue once the pandemic is over. The vast virtual shopping, working, educating, and entertaining has many rethinking their supply chain models and how they can better leverage technologies to support digital activities.



## Future-proof your supply chains

Good supply chain management is about two things: 1) reducing complexity, and 2) reducing uncertainty.

Implementing new technologies allow a co-existence of digital enablers and humans across the different supply chain processes and activities that can help achieve these two goals:



### Examples



To that end, there are several approaches and technology solutions that can be used to provide precision visibility into supply chains. This enables real-time decision-making and responsiveness - which will likely be critical to how companies monitor and adapt to changes in customer behavior and supply chain variability in the future.

(1Source: Financial Times, China's new normal may be major export after pandemic, 5 May 2020)



## Advanced track and trace

This allows organizations exceptional visibility and control of their supply chains by tracking raw materials and finished goods all the way from point-of-origin to the final point-of-sale. Advanced track and trace solutions enable real-time tracking and immediate location analysis of assets and inventory.

Where variations to scheduled freight route or climate controls are detected, the tracking technology allows for the independent verification of time and location and control measurements. This enables fleet rationalization and optimization to improve profitability.

An example of this is in the pharmaceutical supply chain, where track and trace technology allows the identification of past and current locations, along with conditions of the drug. Through the entire transportation journey, drug compliance rules around such things as humidity and temperature range are measured and reported. If they fall out of allowed range, remediation events are triggered. Every node of the supply chain – from manufacturer to packager to retail store, and perhaps back again for returns or recalls – can be tracked through the supply chain. Track and trace also helps combat counterfeit, stolen or adulterated drugs.



## Blockchain

Supply chains of the 21st century are faster, more interconnected and require the sharing of greater amounts of data. The complexities of these ecosystems create operational risks, reconciliation challenges, as well as opportunities for fraud and safety concerns. Many leaders are applying blockchain – essentially a distributed, digital ledger – to ensure integrity and security of goods as they flow across regional and global borders.

Products travel through a lot of processes and middlemen. Every product hand-off is documented in the blockchain, creating a permanent history of a product, from manufacture to sale. This reduces delays, errors, and costs, while also creating visibility, a great commodity in modern supply chains.



## Predictive analytics

A major contributor to underperformance is the fact that supply chain risk and mitigation strategies are grounded in historical data and hindsight. New predictive modeling will likely help support informed decisions, allowing action rather than reaction. It's too late when the customer is already disappointed if a delivery isn't made in full or on time. Applying resources and time to fix disruptions after the fact doesn't solve the problem.

Many leading supply chain managers utilize data analytics, machine learning (ML) and other technologies that predict possible supply chain disruptions, such as pandemics, financial, geopolitical and environmental events. This can help organizations with challenges related to operations planning, inventory management, production planning and proactive risk management.



**The trajectory from “What happened and why did it happen” has moved to “What will happen and how can we optimize performance?”**

Peter Liddell, Partner, KPMG Australia

Through scenario planning, organizations can see the bigger picture and make effective trade-off decisions on issues such as: how much stock to hold – and where, or how to balance the cost of inventory versus the cost of failing to satisfy customers. Simulations can be run swiftly to identify sweet spots between apparently conflicting objectives, based on real-time inventory data, customer demand, and supplier capability. Increasingly enabled by AI and automation, these scenarios can help prescribe rather than just predict. By analyzing past events and hypothesizing future threats, companies are able to identify strategic and concentrated supplies that are at risk, and most importantly, recognize when current internal risk capacities prove insufficient.

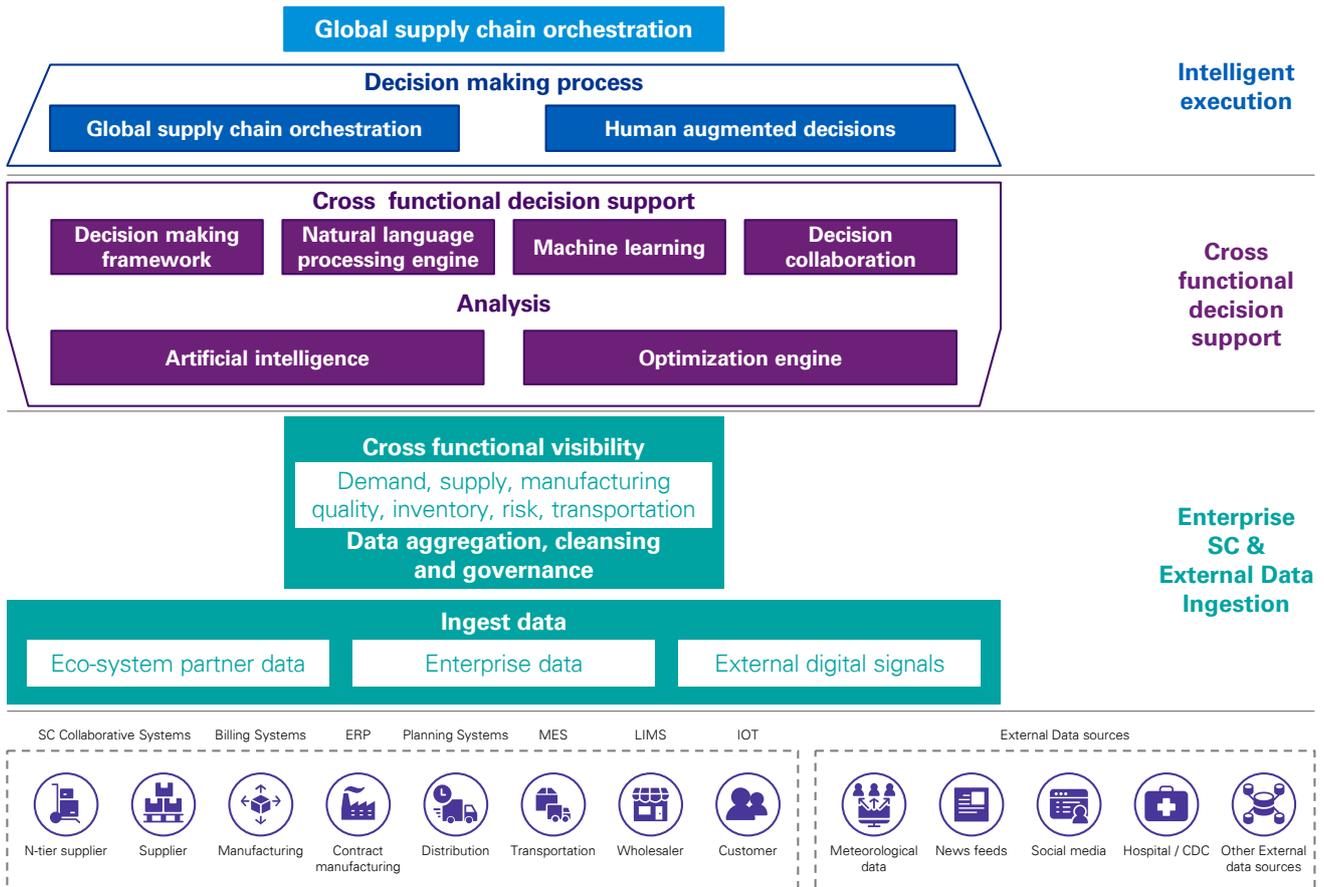


## Cognitive decision centers (CDCs)

Investment in CDCs provides a cross-functional view of the supply chain, from sales and marketing at one end, to finance and procurement at the other. Typically, each of these functions is autonomous, and each is incentivized against targets defined in its own terms, without reference to the organization's wider strategic ambitions. Their priorities, moreover, seldom align. As each function strives to optimize against its respective key performance indicators, it inevitably negatively impacts the performance of the others.

Tomorrow's CDCs will likely use state-of-the-art artificial intelligence to capture and interpret cross-functional data, allowing decision makers from across an organization to recognize points of conflict and simulate different trade-offs in the hunt for a best scenario. Put simply, CDCs are about optimizing enterprise-wide performance, not the performance of distinct business units.

# Cognitive decision centers framework



## Developing digital capabilities in your workforce

According to the 2019 KPMG Global CEO Outlook study, 83% of chief executives are not confident that their business can design and implement the future operating models necessary to support digital transformation. The supply chain leader has a unique opportunity in changing that perspective. COVID-19 has shown that getting the supply chain right is one of the biggest value levers that businesses have to pull.

Talent and technology are both key to growth. Digital disruption impacts every corner of business, but will be especially visible with regard to the size, shape and capability of the workforce. Upskilling of employees for a digital age is essential for resilience. In a nutshell: People are at the core of every organization, and their decisions and actions determine its success or failure.



**Whatever the technological maturity of your business, the success of your future supply chain strategy depends on your people**

Carmelo Mariano, Partner, KPMG in Italy

Non-core competencies or specialized skillset gaps will likely cause supply chain organizations to look to external partners, or platforms forming new “supply chain” relationships, and workforce extensions. Organizations can increasingly access capabilities from a wide range of permanent hire, gig economy workers, and partners.

## An enhanced digital workforce

To meet fast-changing customer demands, companies must be able to offer real-time connectivity and responsiveness, which will require a reskilled workforce to adapt in an ever-changing landscape. A few examples of digital upskilling:

**Manufacturing.** Businesses can’t afford to wait for changes in demand to be felt in sales data. In the future, sensors built into smart products in the field can instantly feed information back to manufacturers about their customers’ habits and their devices’ performance. Customer needs may well be anticipated before the customers themselves are even aware of it.

Upskilling, redeploying and attracting permanent employees is only one piece of the puzzle. On one hand, successful organizations are applying the logic of ‘as-a-service’ sourcing to their workforces. In some cases, that means outsourcing operational tasks to contract partners or even competitors. In others, it means digitizing employees’ experience and expertise, building standard algorithmic processes capable of augmenting decision-making. On the other hand, organizations are increasingly looking to partner with third-party knowledge providers – such as business advisory consultancies, academic institutions and software companies – to help them acquire new skills and capabilities quickly and cost effectively.

**Transportation.** Truck drivers will likely be using more mobile apps and devices that specialize in digital load tracking and freight matching for contact-free deliveries. For example, software-as-a-service companies provide their customers with the ability to track shipments in real time. These integrated monitoring systems eliminate the need for truck drivers to check-in continually with dispatchers and brokers along the journey. Start-ups, from self-driving ventures that have made automating trucking their mission, to platforms designed to match cargo-delivery need to truck availability - are shaking up the industry.

## What next? Six principles of action

Every company is at a different stage in its digital evolution. Some are successfully executing pilots or launching new business models and an equal or greater number perplexed as to where to even begin. No matter where you are in your digital transformation journey, the objective is the same: improve performance, create value, and enhance the customer experience. These six steps will help steer your transformation efforts toward that outcome:

1

Start with a clear business strategy. With strategic priorities in mind, you can assess the need to augment or reconfigure your business model.

2

Understand the cost of complexity versus the value of variety. While there is value in meeting growing customer demand for choice, offering too wide a range of the wrong products and services is often not profitable.

3

Leverage data to improve core competencies. It is likely that your business intelligence is served by dozens of different data streams, but are you able to leverage the data in a meaningful way to improve existing capabilities?

4

Lead with performance, not technology. Forget the hype surrounding the latest technological trends and focus on their present capabilities and the needs of the customers they serve.

5

Upskill your workforce. Whatever the technological maturity of your business, the success of your future supply chain strategy depends on your people.

6

Embrace new partnerships. In the future, no single organization is likely to have the full suite of digital capabilities under one roof.

Without the specific focus of these steps, the supply chain digital roadmap risks becoming just a collation of good ideas – a bottom-up brainstorm churned into a project plan with little thought given to overall return on investment.

## How KPMG can help accelerate your digital transformation in the new reality

The 'new normal' sets in and businesses turn their attention to the mid- and long-term priorities to drive sustained growth and prepare for future challenges.

At KPMG, we focus on value. Our teams use a variety of tools and methodologies to target and realize benefits and opportunities for ROI that can offset the costs incurred in transforming your supply chain. Member firm professionals can create a transformation roadmap that means you don't have to wait to see the value in upgrading your supply chain function.

We can support the protection of your supply chain by mapping critical activities and determining potential areas for failure /disruption, and conduct scenario analysis to develop future contingency plans that build resilience.

Drawing on a wealth of insight and experience, KPMG specialists have developed a sophisticated, purpose-built digital analytics platform that your teams can leverage to pinpoint opportunities and cost-drivers faster and more effectively than before.

COVID-19 has forced us to accelerate and re-assess our digital transformation plans. We need to ensure our business operations can be successfully accomplished by a remote and distributed workforce. We need to leverage new technologies and the power of the Cloud to ensure our systems are agile, secure, robust and scalable.

KPMG has designed a series of proprietary operating model and technology accelerators that can turbo-charge your supply chain function and accelerate return on investment from transformation efforts.

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