KPMG

The road to everywhere

The future of supply chain

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About KPMG's 'future of'

Disruption has become a constant condition of doing business. The organizations that are more likely to thrive are those which not only adapt to continuous change but become the drivers of change.

KPMG's 'future of' program distills KPMG professionals insights on sustained organizational readiness across the front, middle and back office. It demonstrates our commitment to helping clients achieve tangible results by offering focused solutions that draw on the breadth of KPMG member firms experience.

We are sharing our insights through a stream of 'future of' publications such as this one. Each will seek to assess the emerging developments we expect to shape business during the next three to five years as well as share perspectives on the capabilities KPMG believes will be necessary to respond effectively.

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The road to everywhere

The future of supply chain

In the future, supply chains won't be driven by products and processes, but by customer needs; they won't depend on capital-intensive fixed assets and linear flows, but on an ecosystem of modular capabilities, delivered through a network of trusted third-parties, that can be scaled and recombined as needed; operators will become managers; new skills will be required and new job roles created. Tomorrow's supply chains will be autonomous, self-healing, and self-optimizing.

Imagine, with a click of a mouse or a swipe of a touchscreen, your customer will set your production line in motion, realigning your supply chain in real time to deliver a personalized, frictionless experience. Imagine drawing on data, from smart devices in the field and third-parties, to segment your customers and develop separate micro supply chains to service their needs more effectively. Imagine responding to tariffs and regulatory change by seamlessly moving your entire operations from one geography to another – within weeks.

New technology is part of this, of course, but it's not the whole story. At a fundamental level, the way we think about supply chains is changing and this has dramatic implications for the future. Yesterday's supply chains assumed an 'inside-out' operating model: supply chain management was about focusing on the business' existing capabilities, increasing operational efficiency and competing by reducing cost.

In contrast, tomorrow's supply chains will be characterized by an 'outside-in' approach, continuously adapting and evolving to meet changing customer demand. In the future, convenient, flexible, transparent fulfillment will be a source of competitive advantage, blurring traditional distinctions between marketing, sales, operations and manufacturing.

As businesses compete to deliver superior customer experiences, they'll become increasingly reliant on data. Tomorrow's successful organizations will utilize digital platforms, cameras and IoT sensors to collect, integrate and interpret data from across the enterprise.

They'll harness advanced analytics to turn those data points into actionable insights, and leverage cognitive technologies and robotics automatically to execute some actions and support evidence-based human decision-making for others. Above all, tomorrow's supply chains will be connected, able to adapt quickly in response to changes in the market.

Finally, a technology-enabled, data-powered and insight-driven approach to supply chain will require a range of new skills and capabilities. Tomorrow's successful businesses will invest in recruiting top talent, reskilling their workforces and partnering with knowledge providers.

They'll outsource skills and capabilities in which they don't excel and sell their strongest competencies and surplus capacities 'as-a-service.' If yesterday's supply chains were rigid and reactive, tomorrow's supply chains will be nimble and predictive.

While this paper gives an overview of KPMG member firms approach to tomorrow's supply chain, there are more insights to share. If you'd like to discuss any aspect of our approach, please contact your local KPMG member firm to learn more about how they can help you streamline your supply chain and revolutionize your business.

Chris Foster
Global Lead, Operations Center of Excellence

Supply chains of the future

Where should you start?

1. **Put the customer first**
2. **Utilize platforms effectively**
3. **Win the war for talent**
4. **Invest in future-ready capabilities**
5. **Leverage cross-functional data**
6. **Exploit micro supply chains**

Put the customer first

1

Today's customers don't just care about products. Increasingly, they're demanding seamless, transparent, rapid fulfillment as standard. In part, this shift is a natural consequence of the revolution in mobile technology and connectivity. Platform-based commerce offers customers unprecedented choice, not just in terms of the range of products available, but also in terms of the quality and price of comparable products. This gives them unparalleled convenience at the point of sale which fuels demand for similar convenience in fulfillment. But the race to deliver seamless fulfillment isn't simply about technology, it's also about changing business models. In today's crowded marketplace, customers are presented with multiple means of acquiring the same or very similar items and that puts organizations under intense pressure to differentiate their service offerings.

The most successful businesses already offer next-day or same-day delivery, real-time shipment tracking and easy returns, all through a single, intuitive interface. It's a shift that's fundamentally changed the way organizations think about the supply chain. Supply chain management is no longer about reducing cost: it's about service differentiation, increasing market share, even driving revenues as a growing number of customers buy into value-added, premium fulfillment options.

> The supply chain has moved from being a cost-reduction engine to take center stage in the battle to offer a superior customer experience and deliver competitive advantage.
>
> **Sam Ganga,**
> Principal, Connected Commerce, KPMG in the US

The distinctions between traditional front, middle and back office functions are blurring as supply chain now reaches into marketing on the one hand and customer service on the other.

Today's market leaders no longer think of their supply chains as a linear series of inputs and flows. Instead, they're building interconnected, digitally-enabled and predictive networks with the customer at the center. At the heart of these successful business models is a reliance on digital platforms to connect them directly with their customers, boosting engagement and helping them win and retain customer loyalty in an increasingly fickle marketplace. Platform-enabled, customer-centric sales models allow organizations to control the customer experience end-to-end, leveraging a mix of digital technology, personal interactions and physical experiences to build utility, convenience and delight into their transactions in a way that creates customer expectation. Leading organizations, in other words, don't react to changing customer expectations; they determine the level of service that sets the standard for their competitors.

Platform-based commerce generates big data, and today's market leaders are able to exploit this data to profile and segment customer demographics, using cognitive analytics to predict and promote patterns of behavior. Above all, by building supply chains with the customer at the center, these organizations are focused on aligning and optimizing their functions to deliver enhanced service at reduced cost. In fact, customer-centric organizations are 38% more likely to report greater profitability than their competitors.[1]

[1] The Transformational CIO: Harvey Nash KPMG CIO Survey 2018

Utilize platforms effectively

2

It's not only customers enjoying unprecedented levels of choice and convenience as a result of emerging technologies. The rise of digital platforms has opened supply chains up to a world of new possibilities. Using slick digital interfaces, suppliers are now able to do business directly with retailers or customers. Even the elements of the supply chain itself – from planning through manufacturing and inventory to fulfillment – can now be purchased 'as-a-service' from third-party providers and managed through platforms. Finally, platforms enable manufacturers and logistics companies to become 'as-a-service' providers themselves, creating new revenue streams by monetizing surplus capacity.

Successful companies are increasingly turning to platforms to drive growth. Platform-based direct-to-customer (D2C) sales models shorten supply chains, effectively boosting margins by allowing businesses to retain value that would previously have been absorbed by partners and wholesalers. D2C also has important implications for inventory management. Yesterday's retailers managed stock reactively and inefficiently across a network of brick-and-mortar outlets. Today's retailers use customer data accurately to predict patterns of demand, scaling supply to minimize surpluses.

> Underutilized assets like shipping containers, vehicles, machinery, energy or storage space present untapped opportunities to sell 'as-a-service.'
>
> **Rob Barrett,**
> Supply Chain Leader, KPMG in the US

Tomorrow's retailers will digitally integrate their 'as-a-service' partnerships so that their supply chains scale themselves automatically, using sophisticated predictive modelling to seize opportunities and respond to change immediately in an increasingly fast-moving marketplace.

Above all, D2C allows businesses complete control over the customer experience, giving them the freedom to create differentiating, delighting experiences that give their brands a competitive advantage. It's no surprise then, that 72% of manufacturers and retailers have or will soon be able to offer D2C capability, while 68% believe D2C will have a significant impact on their supply chains.[2]

But there's more to platforms than D2C. Platforms make it significantly easier for successful companies to outsource sections of their supply chains to third-party 'as-a-service' providers or even provide capacity 'as-a-service' themselves.

Outsourcing gives businesses access to technical expertise and operational maturity without requiring investment in capital-intensive fixed assets. At the same time, it enables them to monitor – either through platforms or customized dashboards – the performance of both the outsourced function and the outsourcing relationship. It's a model that enables businesses to respond quickly to changes in volume, reducing costs by scaling their service provision. Market-leading retailers are already partnering with established 'as-a-service' last-mile logistics providers to enhance their customer service while keeping costs low. In the next five years, more companies will outsource middle office functions to optimize their supply chains end-to-end. By 2025, the World Economic Forum estimates that digital platforms could generate $60 trillion in revenue – roughly 30% of all global corporate revenue.

[2] State of the Industry (2019): Digital Supply Chain Performance

Win the war for talent

3

Tomorrow's supply chains will be intelligent, predictive and self-correcting. They'll collect data from an ever-increasing array of sensors, cameras and applications, using advanced machine learning algorithms to monitor and adjust automatically detected discrepancies between designed and actual performance. An exponential increase in the volume of available data is already putting pressure on market-leading organizations to recruit specialist analysts capable of turning that data into insights which will cut costs, diversify products and drive sales. And it's not just data scientists; tomorrow's businesses will need specialists in AI, blockchain, robotics and cyber, too. However successful organizations aren't just trying to snap up hot digital talent and then calling the problem solved. They're developing strategies and programs that continuously enhance their workforces, allowing them to adapt in an ever-changing landscape.

Businesses have been taking advantage of automation to achieve efficiencies across their supply chains for decades. But the pace of change is accelerating thanks to intelligent automation (IA). IA brings together artificial intelligence and robotics to automate processes that were previously too complex for machines.

> Supply chain roles are changing dramatically. We're seeing a move towards hybrids; people with one foot in the traditional operations and logistics domain, and the other in technology.
>
> **Dale Williams,**
> Partner, Head of Operations Advisory, KPMG in the UK

And new technologies are emerging all the time. Over the next five years, for instance, we'll see greater use of drones in manufacturing, warehousing and distribution facilities to perform maintenance, take inventory and move stock, to say nothing of applications in final-mile logistics. Advances in IoT wireless networking will change the cost, quality and range of IoT sensors, while silicon chip innovation will allow organizations to embed data analytics capabilities in low-cost IoT endpoints.

The spread of digitization and automation throughout the supply chain has already made some roles obsolete and created a growing demand for supply chain professionals with digital and analytics skills. However, every other part of the business is also going digital, the competition for the best talent is intense. To make matters worse, since technology is evolving faster than traditional forms of education and training, the number of those possessing the requisite digital skills remain relatively small. To keep pace with the speed at which supply chain models and technologies are evolving, organizations must identify the specific capabilities they will need in the future and focus their energies on establishing effective, sustainable talent pipelines.

Win the war for talent

3

Tomorrow's market leaders will combine different strategies and approaches to secure the talent they need. For instance, they will continuously review the way they structure their supply chain management capabilities to optimize functional skill sets, replacing traditional job descriptions with hybrid roles that combine supply chain expertise with a proficiency in data science, such as Scenario Analyst, Customer Journey Architect and Robotics Engineer. In addition to reconfiguring how roles and teams operate, tomorrow's successful organizations will leverage digital centers of excellence to train their workforces in new technological capabilities and how to apply them in real-world, business scenarios.

Finally, they will adapt to accommodate new ways of working, which may be at odds with traditional corporate culture. Tomorrow's technology professionals won't want to – and won't need to – work regular hours at out-of-town industrial centers. Instead, they'll expect to work flexible hours remotely utilizing digital tools to collaborate and manage tasks. Tomorrow's market leaders will evolve their structures and processes to offer permanent staff arrangements that suit their lifestyle preferences and commitments.

However, 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 gig economy workers, contract partners and even competitors. In others, it means digitizing employees' experience and expertise, building standard algorithmic processes – accessible via platforms – 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. Strategic partnerships allow organizations to leverage their partners' experience and expertise in the short term while engaging in the longer-term process of developing and embedding those same skills and capabilities internally.

of U.S. CEOs regard **modernizing their workforces as the top strategy** to help ensure their organizations are future-ready.

Source: Agile or irrelevant, CEO Outlook, KPMG 2019

Invest in future-ready capabilities

4

New technologies are changing the fundamentals of supply chain management. As the quality and quantity of the available data continues to improve, activities predicated on limited or sub-optimal information streams are fast becoming unfit for purpose. Tomorrow's successful organizations will need to develop entirely new capabilities, utilizing the most relevant data to manage their operations more efficiently and respond to opportunities and threats more effectively. Businesses that continue to invest in traditional capabilities risk losing out to competitors who can exploit digital technologies to predict better, react faster and maximize value across their channels and product lines.

Tomorrow's market leaders will excel in five key capability areas:

1. Modelling the 'voice of the customer'

Yesterday's demand planners used sales forecasts to try to predict changes in customer demand. In today's rapidly-evolving marketplace however, speed to market is essential: 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 will simulate the 'voice of the customer,' feeding information back to manufacturers in real time about their customers' habits and their devices' performance. Tomorrow's successful businesses will use information from IoT devices and third-party sources to anticipate customer needs before the customers themselves are even aware of it. Moreover, they will be able to segment their customers by different patterns of behavior, targeting their marketing efforts and developing purpose-built supply chains to service each segment more effectively. In the future, organizations will need to enhance their IoT and advanced analytics capabilities so they can predict changes in customer demand instead of reacting to them.

Invest in future-ready capabilities

4

2. Micro demand planning

It's not just IoT sensors that will give tomorrow's retailers and manufacturers greater visibility of customer demand. While smart technology will play an important role in tomorrow's digital economy, it only gives organizations insight into the preferences and behaviors of their existing customers. In order to predict changes in the wider market more accurately, tomorrow's successful organizations will leverage data from sources outside the enterprise. Above all, they'll develop better data governance capabilities, collecting, integrating and leveraging data to generate a clearer, more granular picture of customer demand. Yesterday's businesses modelled demand at the regional or channel level; tomorrow's market leaders will have the capability to predict demand at individual outlets, reducing waste and boosting customer engagement.

3. Understanding the cost of complexity

In the past, businesses tended to tolerate loss-making product or service lines because they didn't have access to the data streams and analytics capabilities that would enable them to calculate the cost of serving their customers. More and more sophisticated data science capabilities are being developed all the time. And in the future, organizations will be able to untangle complex masses of product line, supply chain and channel-to-market data to understand the true cost to serve for any one of their customers in real time. Tomorrow's successful businesses will utilize robust supply chain analytics platforms to make more informed business decisions faster. In the shorter term, decision-makers will be able to identify un-profitable or under-profitable service lines and opportunities to improve performance. In the longer-term, they'll have the tools they need to be able to reposition products, review customer accounts, and optimize the way customers are serviced, improving their overall margin. With the right supply chain analytics capabilities, tomorrow's businesses will be able to model the costs of complexity incurred by new offerings, setting performance benchmarks that tell them where, when and how far to invest to make the most of market opportunities.

Invest in future-ready capabilities

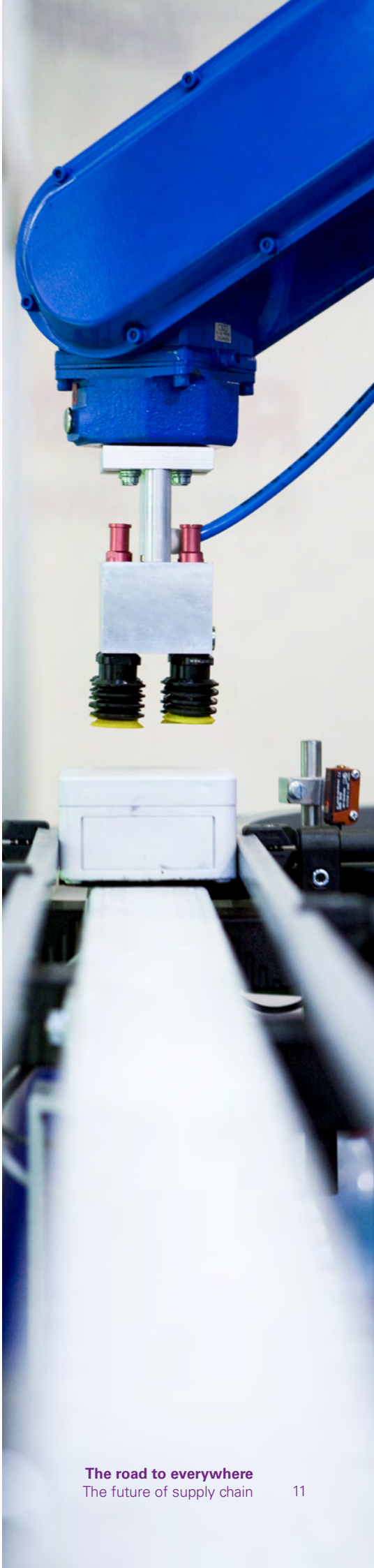
4

4. Managing new kinds of partner networks

Today's successful businesses are moving away from traditional, asset-based supply chains to a managed services model where capital-intensive capabilities – such as manufacturing, warehousing, logistics and distribution – are outsourced to partners and contractors. In the future, however, it's not just physical processes that will be managed 'as-a-service.' As effective supply chain management comes to depend more and more on cutting-edge analytics capabilities, organizations face a growing skills gap across their workforce, which training and development simply cannot fill quickly enough. Tomorrow's market leaders will partner with knowledge providers to give them access to the technical skills and expertise they need to build new digital solutions, iterate their platforms and enhance their capabilities as data streams become more and more complex. Businesses will not only outsource the design, architecture and maintenance of their digital systems, they will also outsource the management of those systems, especially the planning cycles. As organizations' networks become more complicated, however, they need to develop new management capabilities to continue to operate effectively. In the future, if they are going to outsource functional expertise, businesses will need to be able to manage an extended workforce of full- and part-time employees, gig economy workers, service providers, alliance partners and so on, while maintaining data security and integrity and protecting intellectual property.

5. Enhancing supply chain autonomy

Yesterday's supply chains were managed exclusively by people. In the future, however, a growing number of decisions will be automated, which both increases operational speed and responsivity and frees up supply chain professionals to focus on more complex, impactful decision-making. Tomorrow's successful businesses will feed predictive analytics into machine learning algorithms, training computers to identify pattern anomalies across the supply chain and respond automatically with a suite of appropriate countermeasures. This translates to a future state where supply chains will be able to recognize the accumulation of surpluses and scale back production therefore reducing waste; or by using a combination of cameras and IoT sensors, they'll anticipate the potential disruption and self-correct, reducing costly outages and line downs. Automated optimization will become the new norm and tomorrow's businesses will need to be able to build cognitive analytics into their supply chains if they want to stay ahead. To find out more about this capability, see our section on leveraging cross-functional data in reference to cognitive decision centers.



Leverage cross-functional data

5

Supply chain automation and digitization doesn't just reduce costs and drive efficiencies, it generates vast and ever-increasing quantities of digital information. Many organizations already use predictive analytics and machine learning tools – overseen by teams of data scientists in so-called 'control towers' – to analyze, integrate and interpret this data in real time, enabling them to pre-empt rising costs, expose process bottle-necks and augment decision-making.

However, control towers aren't perfect. It's a model that's predicated on data totality, integrating inputs from across the supply chain in order to automate responsive process optimization. But as supply chains become more digitally sophisticated, control towers must cope with greater and more varied inputs, which can overwhelm decision-makers and slow down systems.

Moreover, control towers are designed to look at the supply chain in isolation. Their purpose is to optimize processes against pre-determined KPIs, not to generate the kind of insight that would enable leaders to evaluate the strategic fitness of those KPIs or align them with metrics and business priorities drawn from other parts of the organization.

> A cognitive decision tower lets you collaborate across functional boundaries, with analytics doing the heavy lifting and human experts providing the personal expertise to make good decisions.
>
> **Kirk Hull,**
> Director, Operations Consulting, KPMG in the UK

That's why tomorrow's successful organizations will invest in cognitive decision centers (CDCs), which represent a major improvement on traditional control towers. Unlike control towers, CDCs take 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 KPIs, it inevitably negatively impacts the performance of the others. Tomorrow's CDCs will 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.

Above all, CDCs are simulation tools; they will provide decision-makers with a testbed for business strategy. While control towers are fundamentally backward-looking, streamlining supply chain processes to hit predetermined targets, tomorrow's CDCs will help organizations understand the enterprise-wide impacts of different responses to the market and different strategic ambitions. This allows successful organizations to continuously make informed decisions about their functional priorities.

Exploit micro supply chains

6

Traditionally, supply chain management has been about reducing costs, either by outsourcing labor-intensive manual processes to emerging economies, embracing long-term contracts or pursuing economies of scale. While decades of optimization have enabled businesses to drive down unit costs across the supply chain, it's come at a price. Heavily-integrated global networks are fundamentally unresponsive to changes in technological potential, geopolitics or customer demand and that means that yesterday's market-leaders are in danger of losing out to nimble disruptors, capable of leveraging digital technologies to bring new products and services to market quickly.

But the rate at which the market is changing isn't the only challenge facing today's businesses. Customers are demanding greater choice, customizability and personalization than ever before. Heavily integrated supply chains, however, reliant on cost-savings at volume to generate value, can struggle to deliver variety profitably. As variety increases, diminishing economies of scale and rising indirect costs can lead to underperformance.

> Tomorrow's customers expect infinite variety and instant delivery. But not all variety is profitable. Micro supply chains locate the balance between the cost of complexity found in a business and the value of variety associated with market demand.
>
> **Brian Higgins,**
> Principal, Supply Chain and Operations Practice Lead, KPMG in the US

Even worse, in building out their supply chains to accommodate a wider variety of offerings and channels, organizations can end up over-catering to their least profitable segments and underserving their most valuable customers.

Forward-looking businesses recognize the need to balance the demand for variety against the costs associated with complexity, developing agile operations that can flex to adapt to the market and scale to meet the needs of different customer groups. As a result, they're investing increasingly in micro supply chains.

In order to meet growing customer demand for choice, tomorrow's successful organizations will separate out the operations associated with different business streams into self-contained, micro supply chains. Each chain can then be optimized to serve a specific customer segment more effectively without impacting how the organization services other segments. Indeed, micro supply chains enable companies to customize products, policies, production systems, flows, organizations and systems choices to different segments of the market and specific customer affinities.

Exploit micro supply chains

6

Micro supply chain models represent a far more profitable approach to delivering variety than yesterday's one-size-fits-all operating models because they allow businesses to run multiple standard work processes in parallel, significantly reducing the costs of complexity associated with accommodating multiple variations within a single standard process. But they're not only an effective means of enhancing customer-centricity and reducing complexity costs and cost to serve. Because they're aligned with specific customer segments, micro supply chains enable businesses to react faster to changes in specific corners of the market.

> Flexible, contract manufacturing enables companies to replace more of their traditional fixed cost base with variable costs, to adapt faster to changing demand.
>
> **Peter Liddell,**
> Partner, ASPAC Head of Supply Chain, KPMG in Australia

Micro supply chains often shift production and distribution from remote global manufacturing hubs to locations which are much closer to the end customer. They combine traditional mass production methods with small-batch modular techniques, ensuring items remain as generic as possible for as long as possible and exploiting recent advances in 3D printing technology to finish and personalize goods near the point of delivery. It's a model that relies on agile partnering and fluid, 'as-a-service' relationships instead of long-term contracts and capital-intensive fixed assets, and it's highly flexible.

The principal advantages of micro supply chains are reduced costs of complexity and cost to serve as well as unparalleled responsiveness and adaptability to changes in customer demand, but there are many other benefits, too. By shifting production closer to the end customer, organizations can offer faster fulfillment at a lower cost and with a smaller carbon footprint. Micro supply chains also mitigate the impact of reverse logistics, the annual cost of which in the U.S. alone is expected to reach $550 billion by 2020[3]. Working within rather than across borders means micro supply chains are far less vulnerable to changes in regulation, interest and exchange rates, wage inflation or tariffs. The ability to manufacture in smaller batches keeps inventory costs and waste to a minimum.

[3] Costs of return deliveries in the United States from 2016 to 2020 (in billion U.S. dollars), Statista, 2019

Looking ahead

Understanding today's challenges so you're ready for tomorrow

1. **Embracing change**
2. **Overcoming digital overwhelm**
3. **Building management capability**

Embracing change

Disruption is the new norm. As new technologies continue to emerge, the pressure on supply chain leaders to innovate is only going to get more intense.

Across multiple industries, agile challengers are exploiting new technologies to outcompete incumbents. Resistance to change, however, continues to be the biggest obstacle to investment in supply chain transformation among established businesses. And it's easy to see why. The costs associated with replacing legacy technology systems or evolving business models can be high. Where supply chains are reliant on capital-intensive fixed assets and long-term contracts, leaders may be inclined to defer digitization and automation, especially if the model seems to be working. Success in the present can sometimes be the most tenacious obstacle to change.

Tomorrow's successful organizations will adopt an agile, flexible approach to business transformation. Impatient for quick returns on investment and not afraid to invest, they will focus their budgets on targeted, high-impact, modular strategies: cloud-enabling or outsourcing some parts of their supply chains as a priority; hybridizing some – but not all – supply chain management roles to incorporate greater data science capability; or migrating non-standard manufacturing to micro supply chains while retaining their mature global networks for the manufacture of standardized products and parts.

of U.S. CEOs (up from 14% in 2018) **believe agility is 'do-or-die' for their businesses** and that being too slow to adapt to changes in the market can lead to obselescence.

Source: Agile or irrelevant, CEO Outlook, KPMG 2019

Overcoming digital overwhelm

Many supply chain leaders are aware of the need to urgently digitize their supply chains, but don't know where to start. The sheer variety of available solutions can seem at best confusing, and at worst completely overwhelming. Adding to the choice between software solutions, 'as-a-service' business model iterations, cloud-based technologies, robotics and more, organizations face pressure to not only emulate their competitors but to outperform them. While at the same time making the best possible use of their technology budgets in order to do so.

The most successful organizations aren't grasping after the next big thing. They're making decisions based on a clear understanding of their business strategies, identifying technology investments that enable them to do even better than what their competitors aren't doing. Smart businesses know that no matter how streamlined and digitally-enabled their operations are, if they make bad decisions, their performance will suffer.

> Organizations that look to evaluate their digital processes and leverage technology options which will remove friction from the supply chain and improve decision making capabilities will see vast performance improvements and sustainable ROI.
>
> **Kaveh Taghizadeh,**
> Partner, Advisory, KPMG in Germany

of retail executives ranked the **inability to assess technology impacts as a top 3 investment challenge** compared with 20% in 2018.

Source: State of the Industry (2019): Digital Supply Chain Performance

Building management capability

Tomorrow's supply chains will be more fluid and collaborative, comprising myriad 'as-a-service' partnerships across functions and workforces, decentralized micro supply chains and even parallel supply networks segmented for different customers and markets. Gone are the days of linear flows and long pipelines; if supply chains are becoming shorter end-to-end, they're nonetheless becoming broader, more diverse and more complex.

Many organizations feel they lack the capability – in terms of systems, digital skills and experience – to manage this many independently moving parts efficiently. The inability to collaborate effectively, in particular, whether that's within organizations or across the partner ecosystem, poses a significant threat to successful transformation.

Today's market-leaders, however, are already working with optimization specialists to design solutions that will not only improve supply chain visibility but will also facilitate collaboration and augment cross-functional decision-making, enabling them to manage more complex networks more efficiently.

of U.S. CEOs intend to **pursue growth inorganically in the future**, either by M&A or by strategic alliances, outsourcing and joint ventures.

Source: Agile or irrelevant, CEO Outlook, KPMG 2019

Getting there

While the specifics of every client challenge are different, there are nonetheless six broad steps that can help businesses enhance their supply chains, whatever their industry and whatever stage they're at along their transformation journey.

1. **Clarify your strategy**
2. **Understand the cost of complexity vs. the value of variety**
3. **Leverage data to improve core competencies**
4. **Lead with performance, not technology**
5. **Upskill your workforce**
6. **Embrace new partnerships**

1

Clarify your strategy

In preparing for tomorrow's digital economy, today's organizations are faced with a myriad of investment choices. Indeed, there are often so many routes to improving performance across the value chain that businesses don't know where to start. Our recommendation is always to start with a clear articulation of your business strategy: What are your value propositions? Who are your customers? How are your offerings differentiated? With strategic priorities in mind, you can assess the need to augment decision-making, improve operational performance, enhance your capabilities or even reconfigure your business model. With a clear view of your performance ambition, you can also identify the KPIs against which you'll measure success and ROI.

2

Understand the cost of complexity vs. the value of variety

While there's value in meeting growing customer demand for choice, offering too wide a range of the wrong products and services isn't profitable. To succeed in the future, you will need to address both halves of the equation: what are the most valuable choices you can offer your customers; and what are their associated complexity costs and how might these be reduced? The first step is always to understand the market: What do your customers expect in terms of cost, functionality and speed of fulfillment? What are your competitors offering? What's the least variety you can offer while remaining credible and relevant? What combinations of products, services and channels are your customers responding best to? The second step is to build these insights into a differentiated target delivery model you can optimize against, providing better value at lower costs. Bear in mind that optimizing variety and complexity comprises two distinct processes that you'll need to keep balanced. You should split out and align different business streams with different customer needs to give greater operational flexibility without compromising standard work processes. You should also review and redesign your operations within those business streams to maximize efficiency and reduce cost to serve.

of CIOs say their digital strategy is **only moderately effective, or worse**.

Source: The Transformational CIO: Harvey Nash CIO Survey 2018

3

Leverage data to improve core competencies

The first step toward enhancing your decision-making with cognitive technologies or machine learning algorithms, is to consolidate the data your organization produces and has access to already. It's 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? Are you able to use IoT to predict product failures? Can you leverage supplier advanced shipping notices to anticipate supply continuity issues? As an intermediate step in your transformation journey, you can build or buy an analytics platform to help you manage and organize your data sources in order to enhance your existing processes and decision making. Longer-term, the data will be machine ready to usher in more advanced cognitive techniques.

4

Lead with performance, not technology

Today's business leaders need to forget the hype surrounding the latest technological trends and focus on their present capabilities and the needs of the customers they serve. The purpose of technology is to improve performance and augment decision-making. Successful organizations start by identifying their performance ambition, looking at opportunities to remove friction in a process or to improve decision making and then identifying solutions and capabilities to drive improved performance, factoring in the change-management and upskilling costs associated with implementing these new capabilities.

of surveyed supply chain leaders plan to **expand their cognitive analytics capabilities** in the next two years.

Source: State of the Industry (2019): Digital Supply Chain Performance

5

Upskill your workforce

Whatever the technological maturity of your business, the success of your future supply chain strategy depends on your people. It can take time to recruit new talent and upskill your workforce, which underlines the importance of starting now. An important step is to establish supply chain centers of excellence (CoEs) to curate best practice and consolidate lessons learned. Not only can your supply chain CoEs function as a specialist resource, providing guidance and insight on demand, they can create and facilitate training that accelerates learning and development across your organization. CoEs are also innovative spaces, providing a home for new digital talent – from informatics experts to actuarial scientists – while enabling your organization to explore the kind of hybrid specialisms you will need in the future.

6

Embrace new partnerships

In the future, no one organization will have the full suite of digital capabilities under one roof. Tomorrow's successful organizations will outsource not only capabilities but also hard-to-recruit skill sets; they'll cultivate an agile ecosystem of partners from small-scale regional manufacturers and fourth- and fifth-party logistics companies to gig economy technology professionals and universities. By focusing on your business strategy, customer needs and current capabilities, you can begin to build a roadmap for the services you will need to outsource and consider different partnership models and performance management strategies.

How KPMG can help

How KPMG can help

KPMG recognizes that today's business leaders don't only need solutions, they need reliable advisors. Whatever your sector, KPMG professionals can add value in your supply chain transformation journey.

Multi-disciplinary teams from across the global network of member firm combine deep industry expertise with an agile approach to help you unlock existing value within the enterprise and enhance your capabilities to achieve sustainable growth in the future. KPMG can bring to bear a suite of frameworks, methodologies and tools to help you review, design and optimize your supply chain function.

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.

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.

KPMG has devised a systematic methodology that identifies and interrogates costs across the value chain. Member firm professionals work diagnostically, top to bottom, from the costs associated with your product portfolio through every process in the design, manufacture and distribution of individual products. It's an approach that enables us to attack costs at their source, retaining value that focuses on mitigating costs once they're cemented into your proposition.

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.

KPMG can provide the frameworks and analytics capabilities that enable you to distinguish between 'value eroding' and 'value contributing' complexity. We'll help you develop an adaptable operating model with a bias for standard work that strikes an optimum balance between product variety and process complexity.

KPMG Powered Supply Chain brings together industry-leading practices and processes, pre-configured, cloud-based technology applications and a next-generation delivery framework to help you jump start your supply chain transformation journey.

- Leverage customer-centric business models, pre-built KPI libraries, data models and reports to align your supply chain to your customer experience.
- Take advantage of preferred-practice process architectures, a catalogue of robust controls and leading service model design to be able to anticipate and quickly resolve supply continuity problems.
- Exploit industry insights and advanced data analytics to organize your logistics capabilities around actual demand rather than sales forecasts.
- Utilize KPMG's Target Operating Model to drive sustainable transformation and enhance the value of your supply chain.

This aims to reduce implementation risk, provide clear, consistent return on investment and a solid platform for continuing business evolution.

- Build a responsive supply chain function that operates as one virtual organization.
- Capture, integrate and interpret data to give your teams an accurate, real-time overview of systems, processes and flows.

KPMG Connected Enterprise is our customer-centric and enterprise-wide approach to digital transformation. It focuses every process, function and relationship of the organization on a single purpose, harnessing the power and potential of customers to fuel profitable and sustainable growth. The divisions between front, middle and back offices are collapsing. Future-focused businesses are shaping new operating models in which every part of the organization, from sales to the supply chain, is working with every other element to deliver against the customer promise.

KPMG Ignition Centers are our most innovative spaces. They facilitate new ways of working with each other and clients, help us to compete for the new types of talent required by 21st Century Enterprises, and serve as the storefront for KPMG technology solutions. With numerous locations in member firms around the world, we invite you to experience the future at one of our KPMG Ignition Centers.

Analyst recognition

KPMG has been named a leading global service provider for Supply Chain Planning consulting services in a major new report: **The ALM Vanguard: Supply Chain Planning Consulting 2019 report.** The report notes how "KPMG demonstrates consistent success in elevating and maturing client planning organizations into a truly integrated, high-functioning operation that is capable of delivering real positive results."

Additional market recognition

Vanguard Leader in Sourcing Strategy Consulting 2018

Vanguard Leader in Procurement Operations Consulting 2018

Vanguard Leader in Logistics Management Consulting 2017

Gartner Market Guide for Supply Chain Strategy & Operations Consulting (2018, 2017, 2016)

Research sources

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"The Death of Supply Chain Management: HBR," Allan Lyall, Pierre Mercier, and Stefan Gstettner: HBR, June 2018

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