

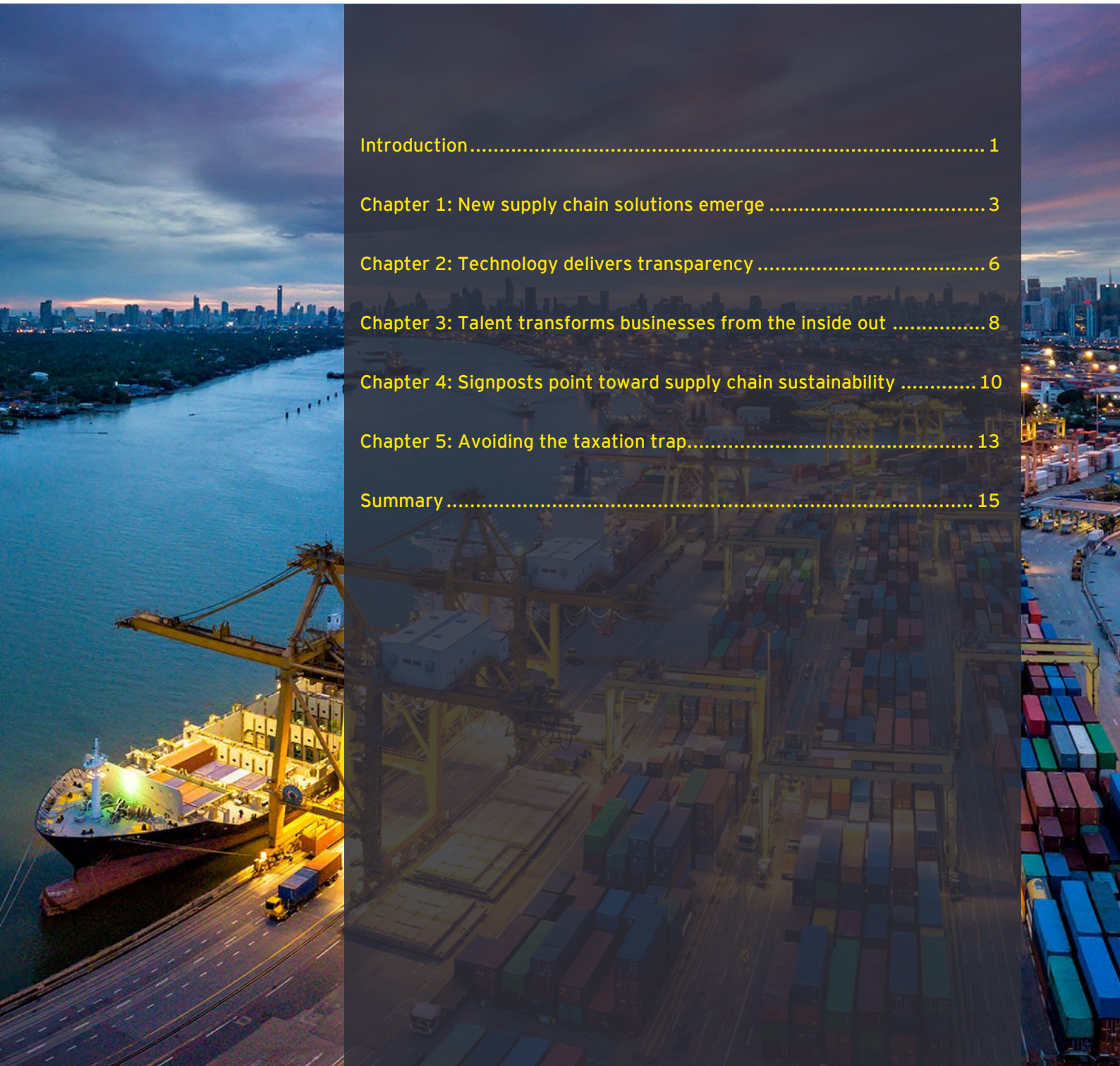
Supply chain reinvention

What you need to start
and stop now



Table of Contents

Introduction	1
Chapter 1: New supply chain solutions emerge	3
Chapter 2: Technology delivers transparency	6
Chapter 3: Talent transforms businesses from the inside out	8
Chapter 4: Signposts point toward supply chain sustainability	10
Chapter 5: Avoiding the taxation trap.....	13
Summary	15



Introduction



The COVID-19 pandemic was a test of supply chain resiliency and most organizations fell short.

Before COVID-19, global supply chains ticked a lot of boxes: lower labor and operating costs, wider product ranges and greater reach to new markets.

But the vulnerabilities and visible failures of global supply chains during COVID-19 were there for all to see. Lead times expanded exponentially. Manufacturing capacity stalled. Ports became congested. Transportation ground to a halt. Excessive reliance on one location or one supplier caused a domino effect of expensive downtime along the line.

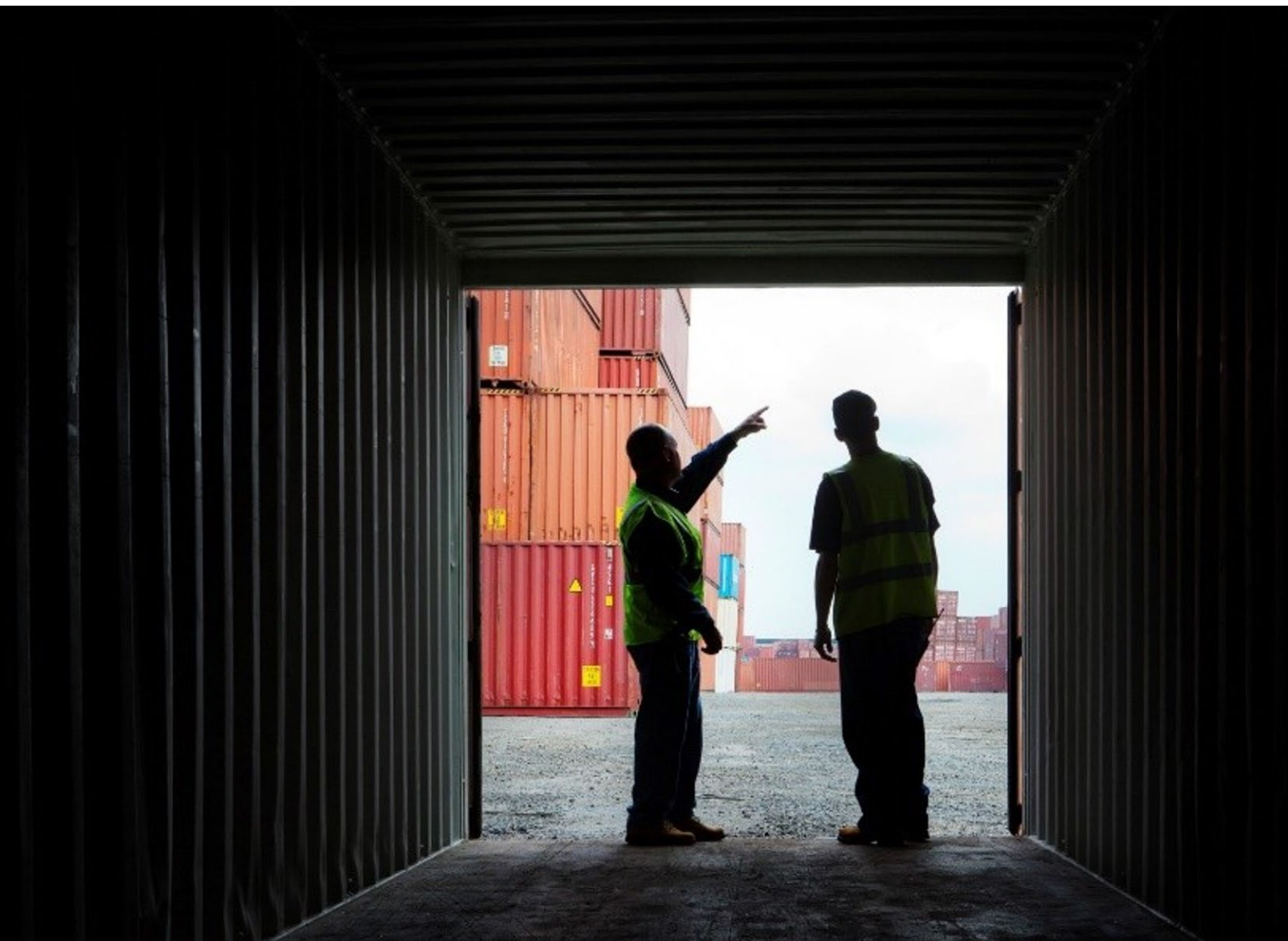
But COVID-19 is just one of dozens of disruptors that are driving business leaders to reimagine their supply chains.

Labor and energy costs have risen sharply over the last two years, as have the costs of raw materials. Freight rates have jumped more than 400% from their 2019 levels too.

Trade flows are being redefined by changes to foreign policy and tax regimes. Customer expectations are evolving rapidly. And in a globalized world, where climate change and human rights issues are everyone's business, there is a greater spotlight on ethical sourcing, sustainability and corporate social responsibility.

One ship stuck in the Suez Canal showed the world how fragile our supply chains really were. So, it's no surprise that nearly a third (30%) of Asia-Pacific CEOs are reimagining their supply chains to reduce costs and minimize risks, according to the EY 2022 CEO Outlook Survey.¹ What's more, 84% are proactively reconfiguring their supply chain in response to geopolitical and trade tensions.

But when supply chains are so complex and redesigning them is so costly, where do business leaders begin?



¹ [EY 2022 CEO Outlook Survey](#)

Chapter 1:

New supply chain solutions emerge



While it is true the pandemic caused unprecedented supply chain disruption, it is also true that the pandemic exposed what was already there. Fragmented linear supply chains do not provide the visibility required to mitigate risk or the flexibility to collaborate with trading partners. This makes it virtually impossible to respond quickly when disruption hits.

In response, companies have started to reimagine their supply chains in four important ways:

1. **Shorter and localized supply chains**

In some cases, localization has been a proactive strategy to mitigate the risk of disruption to longer supply chains. But in many more cases, the geographical tightening of supply has been involuntary.

Shorter, more localized supply chains and networks call for a different set of paradigms to manage them. They require more technology-enabled and analytics-driven capabilities. And they challenge some of the core principles upon which many multinationals have built their supply chain operating models.

Shifting more stock keeping units to make-to-order can also reduce working capital and simplify the sales, operations planning and forecasting process.

2. **Multiple sources of supply**

Shorter supply chains and fewer cross-border transactions reduce the immediate global trade complexity and compliance burden. However, this is often countered by the need for greater flexibility and agility within redefined geographies.

To build resilience, companies are establishing multiple sources of supply – both in-house production and from third parties – as well as accommodating excess capacity and volume redundancy. They are building the capability to dynamically reconfigure networks to respond to actual supply constraints.

In fact, many leading supply chain functions have set a clear goal of zero tolerance for single sourcing in lieu of the recent disruptions.

3. **Omni-channel connections with customers**

The way businesses interact with their customers is changing – the channels they sell through, the ways they meet demand and the platforms they use to resolve problems. Many manufacturers are transitioning from B2B to B2C – but just a 5% B2C base demands different planning, warehouses, package sizes ... and the list goes on.

A company that once sold their product by the pallet may now be required to break down bulk items into individual sales. What once took a week may be required in an hour. Supply chain segmentation has become increasingly complicated and omni-channel planning is not easy. Technology may eliminate some middle layers, but it usually adds new costs.

4. **Market clusters**

When clusters of jurisdictions are self-sufficient – in other words, when their demand is met by the production within their market or cluster – there may no longer be a strong rationale for a regional planning center. In some sectors, like consumer products, this may be magnified.

We expect to see a shift toward multiple planning centers, with markets clustered by similar demand characteristics and supply sources. This provides the flexibility for multiple locations for management, places them in proximity to markets, and presents a talent model that supports greater mobility and location choice.



Case study

Technology turns a local footprint into market dominance

This global manufacturer had eight warehouses in Taiwan but was struggling against global competitors without local manufacturing or a large footprint. Dynamic network optimization – which uses technology, data, processes and communication – helped this client translate a strong local footprint into market dominance. EY teams designed a hybrid distribution model to support last-mile and urgent order requirements, while reducing total delivered costs, and recommended a three-year roadmap of improvement opportunities. The project delivered cost savings of around US\$3.5 million while reducing working capital of US\$10 million over just two years.



Case study

Artificial intelligence (AI) triples same-day delivery capacity

With a distribution network that was not geared for growth, this global infant formula brand was looking to improve supply chain performance across Southeast Asia and mainland China markets. The project started with an optimization review using powerful AI-backed analytic software. This unearthed one-off inventory savings in one market and uncovered recurring savings in others.

Following this discovery process, EY teams proposed a new distribution and supply chain model, including four additional regional distribution centers in mainland China to increase responsiveness. With EY help, the client has tripled the capacity for same-day delivery – 30% of sales – and doubled the ability to deliver in 48 hours – another 40% of sales.

Next steps

- ▶ **Stop** spending or (wasting) millions on advanced digital forecasting solutions without introducing organizational change in skills needed to sustain such advance solutions.
- ▶ **Start** using de-globalization as an opportunity to drive supply chain localization to shorten lead times and shift supply chain strategy to make-to-order.
- ▶ **Stop** using large-scale distribution centers and static networks with long lead times and supply chains (asset light ecosystem will provide flexibility through disruptions).
- ▶ **Start** introducing automated micro-fulfilment centers that support local supply chains and one-hour service.
- ▶ **Stop** protecting “exclusive” single-sourcing supplier relationships that limit flexibility during shortages or crises.
- ▶ **Start** building ecosystems of strategic partnerships.
- ▶ **Stop** planning for future demand with functions inside your company.
- ▶ **Start** inviting your entire ecosystem into collaborative planning - including your customers and supplier partners - and use advanced digital collaborative platforms to improve availability and pricing.

Chapter 2:

Technology delivers transparency



Recent supply chain failures have been very visible. But ironically, many businesses were unable to see these failures coming.

Without end-to-end supply chain visibility, how do you keep track of the location and status of your inventory? How do you forecast customer demand? How do you monitor the share of transport capacity? How do you identify disruptions in real time and make informed decisions?

It is no longer enough to ask suppliers and global colleagues for their trade inputs to run a single modeling exercise, and then rely on that model for multiple years. It is no longer enough to take days, sometimes weeks, to answer one “what if” question about your product.

This is why many businesses are turning to supply chain control towers. This connected, customized dashboard of data, business metrics and events allow businesses to understand, prioritize and address critical issues in real time.

The control tower supports collaboration across teams and provides end-to-end visibility across the supply chain. With the help of advanced technologies, such as artificial intelligence, the control tower breaks down data silos, runs scenarios and delivers real-time actionable insights. Unplanned events are predicted before they have a chance to become big disruptions.



Case study

Real-time risk analysis

COVID-19 exposed a shortage of manufacturing capacity in personal protective equipment. Many companies, including EY clients, were caught short. In response, we undertook a review of foreign supply chain risks to identify potential threats and develop mitigation strategies. Following this review, we created a risk assessment methodology – one which could be easily replicated – to identify high-risk suppliers and product categories. We recommended a series of risk management strategies and led the development of a dynamic dashboard. EY clients' team can now assess their risks in real time and ensure, if another major incident strikes, they do not get caught short.

Next steps

- ▶ **Stop** responding late to global shocks that disrupt your supply chain.
- ▶ **Start** using analytics to spot early warning signs to potential crises so you can respond earlier, faster and with more agility to secure supply and satisfy demand.
- ▶ **Stop** remodeling the global supply chain and manufacturing network every few years based on classic macro-economic factors.
- ▶ **Start** to embrace “continuous remodeling” of your entire ecosystem using artificial intelligence and geopolitical radar technology to analyze scenarios for fast decisions and agile implementation.



Chapter 3:

Talent transforms businesses from the inside out



The secret to building a strong supply chain talent pipeline is to place humans at the center while deploying technology at speed and innovation at scale.

The C-suite is convinced. Securing the right supply chain talent is mission critical, and the chief supply chain officer now has a seat at the boardroom table.

Supply chain work was once a thankless task and supply chain teams were considered a commodity. But those same teams stepped up to deliver superhuman results during the pandemic. The stories of supply chain heroism are endless, from the live-in production teams manufacturing personal protective equipment to the truck drivers who were the ultimate lifeline to essential goods.

But a host of other disruptors – from geopolitics to the emergence of the gig economy – are also rewriting the supply chain skill set. Talent with critical planning, manufacturing, artificial intelligence, and machine learning skills is scarce.

Boards must now reassess their talent acquisition, development and retention to compete in the market for top supply chain talent. Strategies will include extensive retraining, cross-training and investments in data science. Consider how your talent management strategy can support people working both physically and virtually.

Unleashing the power of technology – to complement, supplement and enable the workforce – is an important piece of the puzzle. Autonomous decision-making can build resilience in supply chains. But how do we determine which decisions – out of millions of possible decisions – could be transferred from humans to artificial intelligence?

Ultimately, people are the backbone of any organization. As supply chains transform, so must the talent that drives them.



Case study

Talent and technology boost resilience

The resilience of the chemical sector has been tested as COVID-19 supply chain disruptions, feedstock volatility and changing customer behavior drove up the cost of doing business. One global chemical company, with more than 230 plants across four continents, was weighed down by siloed processes, structures and systems. Information flows across business units and supply chain stakeholders were disjointed, leading to unnecessarily high-inventory levels. Besides freight was often expedited at a high cost to meet customer demand.

EY and digital supply chains specialist OMP collaborated to roll out a centralized and globally integrated supply chain planning solution. Four global centers of excellence were established and 900-plus people were trained to use the system and enable new ways of working. By embedding digital planning capabilities, analytics and exception-based forecasting into the way they worked, we helped the company to reduce costs, boost customer service and improve inventory performance.



Case study

Smart tech picks the top talent

Labor constraints are a handbrake on growth. A client – one of the fastest-growing insurance firms in India – wanted systems to support its talent acquisition and retention strategy across a large geographical footprint. We leveraged multiple machine learning techniques to create customized algorithms specific to each business line and role to improve the quality of new hires. What was the result? A 5%-10% increase in productivity.

Next steps

- ▶ **Stop** squandering skilled talent on transactional tasks like order management.
- ▶ **Start** automating all rule-based tasks and realigning skilled resources to customer-strategic tasks, like managing your ecosystem.
- ▶ **Stop** investing in long-lasting and costly technology and infrastructure projects, it needs to be agile.
- ▶ **Start** to encourage agile development of new ideas by establishing small cells across your entire ecosystem.
- ▶ **Stop** running your supply chain as a technocratic function that manages “inventory availability.”
- ▶ **Start** reimagining your supply chain as the most customer-centric part of your business, and equip it with the best strategic, business, analytic and classic supply chain brains. Make a compulsory rotation into supply chain part-and-parcel of working in your business.

Chapter 4:

Signposts point toward supply chain sustainability



The silver lining among COVID-19’s dark clouds is a new focus on sustainability. Consumers around the world saw the potential for the planet to heal.

With cities in lockdown, flights grounded and trucks idling in sheds, the world got a big wakeup call. For the first time in decades the snow-capped Himalayas could be seen more than 200 kilometers away in parts of northern India. Venice’s canals ran unusually clear. Deer wandered through the city streets and subways of Nara in Japan.

EY Future Consumer Index 2022



The signposts have been pointing toward sustainability for several years. One global report from the Economist Intelligence Unit,² commissioned by WWF, shows a staggering 71% rise in online searches for sustainable goods globally over the past five years.

Business leaders have heard the message loud and clear. According to the EY 2022 CEO Outlook Survey,³ CEOs now rank sustainability as the second-most-critical risk to their future growth strategies. What's more, nearly three quarters (74%) of respondents cite environmental, social and governance (ESG) as an important driver of value over the next few years.

But how do companies ensure that precise components, ingredients, products or services align with their sustainability goals?

Technology supports total transparency. Digital tracking helps businesses to identify emission-reducing opportunities and proactively flag other potential sustainability issues at the same time. With the help of AI-enabled scenario modeling, supply chains can be stress-tested.

Smart companies are also using sustainability drivers to rethink their supplier relationships. The traditional model – where supplier relationships are negotiated on low cost and immediacy of supply – is making way for one based on mutual benefit, sustainability, traceability and trust.



Case study

The beauty of sustainable supply chains

One of the world's best-loved beauty and personal care companies was committed to making sustainability integral to its entire business. But with dozens of brands and hundreds of products, how could the company evaluate each and every operation – from product design to distribution? EY teams helped the client develop a unique sustainable product optimization tool to collect and assess data on every product, and then allocate an overall score to determine whether a product should be continued, discontinued or developed. A complementary sustainability risk map of suppliers elevated transparency and supported the development of a global sourcing strategy. What was the result? The client exceeded their 60% emissions reduction target while growing production by 29%.

² [“The Eco-wakening,” WWF, 2021](#)

³ [EY 2022 CEO Outlook Survey](#)



Case study

Bringing everyone together to source the best and brightest ideas

A multinational consumer goods company understood that climate action demanded collaboration along the length of its supply chain. It had a clear strategy to mitigate Scope 1 and 2 emissions. But Scope 3 emissions – those of its supply chain partners – were a particular challenge. EY professionals assembled an international cross-service line team to build a pioneering decarbonization program for the US. An “art of the possible” workshop with all stakeholders brought together the best and brightest ideas. More than 200 decarbonization levers were identified – all of them analyzed and prioritized. We also assessed more than 4,200 logistics routes at a granular level to develop the decarbonization roadmap which will help enable emissions reductions up to 100% over five years.

Next steps

- ▶ **Stop** driving supplier negotiations to achieve lowest cost (at any price).
- ▶ **Start** negotiating holistically to secure capacity, availability and flexibility. This will help you counter future geopolitical and resource shortage crises, and address environment and ESG imperatives to create long-term value.
- ▶ **Stop** managing demand with excessive airfreight, and with excessive packaging and materials.
- ▶ **Start** moving toward net-zero supply chains by improving planning to reduce airfreight and packaging, and by embracing alternative and recycled materials.

Chapter 5:

Avoiding the taxation trap



Tax consequences can overshadow other supply chain considerations, but this can prove a trap.

The pressure to shift production from global to in-region, or even local, has important tax implications.

For many years, companies ran regional supply chain hubs that acted as strategic command centers. From a tax perspective, these were characterized as the entrepreneur in the value chain and, as such, entitled to a large percentage of profits. This encouraged businesses to establish hubs in operationally and tax attractive locations.

Fragmentation and localization of supply chains brings more complexity and companies may be required to revisit their international tax structures as legal entities and tax treatments change. Transfer pricing policies, in particular, must be re-examined to address the relationships between costs and revenue. On what basis are profits split? How is the distribution of these profits achieved without undue tax leakage in the form of withholding taxes, GST or VAT? Answering these questions and allocating profit demands a detailed analysis of the underlying value drivers and contributions of all levels of the supply chain.

Then there is the use of technology, which changes the nature and value of the human capabilities required within the supply organization. New skill sets, focused on analytics, modeling and AI, are in greater demand, while more traditional planning tasks are being automated. This changes how value is generated and therefore impacts the basis for transfer pricing.

Technology enables greater value to be delivered by smaller teams. This may be difficult to explain and defend to tax authorities and may not meet the conditions necessary to qualify for incentives (which have often been headcount and role-based).

Technology also introduces new value drivers which must be quantified and reflected in the transfer pricing design. How do we value data and price analytics services?



Case study

Clusters call for a different tax model

This consumer packaged goods company was facing significant headwinds, as demand disruptions, shifting supply sources and an explosion of e-commerce elevated inventory levels and placed pressure on revenues. The company's Center of Excellence (CoE) leveraged scale and capabilities through a collocated management team. Transfer pricing recognized these contributions and attributed a significant portion of profits to the CoE. Operating the CoE from Singapore offered another big benefit: concessionary tax rate incentives.

But the company's model was not matched with best-in-class planning capability. Experienced planning resources were scarce and technology tools were limited. The result was poor visibility and control.

An advanced planning solution, powered by analytics and automation, was the solution. Cluster-based planning teams, rather than regional hubs, were established to focus on high-value tasks.

But these changes to the supply and demand profile and the planning team's capabilities challenged the CoE structure – and with it the tax and transfer pricing model.

In response, EY teams helped the company to design a new supply chain operating model to fit the needs of the business and improve alignment with tax. Four cluster-based planning hubs provide flexibility while leveraging (future) 15% tax rate locations where possible. Value chain analytics support more appropriate allocation of profit among the management teams. A smart travel management recommendation addresses risks associated with a more mobile team. Greater aggregation across four hub locations better support profit allocation and transfer pricing, hence reducing risk.

Next steps

- ▶ **Stop** using single global or regional centralized trading hubs as a default.
- ▶ **Start** using advanced technology platforms to facilitate collaboration without the need for full co-location – freeing management to be located where best suits them personally and professionally.

A young woman with dark hair and glasses is smiling and looking upwards. She is wearing a light blue denim shirt. The background is a blurred industrial setting, likely a warehouse or factory, with metal structures and bright lights.

Summary

The pandemic is just one of several recent events that have exposed the fragility and inherent inefficiencies of traditional supply chains.

The old models – just-in-time planning, siloed teams and business-to-business blinkers – are no longer fit for purpose.

Supply chains fit for the future are founded on end-to-end interconnectivity. This brings visibility and builds resilience. The big question for every organization is clear – am I taking the right steps to bring that visibility, build that resilience and ultimately reinvent my supply chain?

Authors



Atul Chandna

EY Asia-Pacific
Supply Chain Leader



Claudio Conca

EY Asia-Pacific Consulting
Sustainability Field of Play
Leader



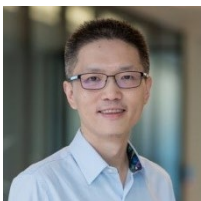
Edvard Rinck

EY Asia-Pacific Operating
Model Effectiveness Leader



Mads D Lauritzen

EY-Parthenon
Asia-Pacific Strategy
and Transformation
Leader



Michael Mo

EY-Parthenon
Asia-Pacific Strategy
and Transformation
Leader



Nick Muhlemann

EY Asia-Pacific Digital Tax
Effectiveness Leader

EY | Building a better working world

EY exists to build a better working world, helping to create long-term value for clients, people and society and build trust in the capital markets.

Enabled by data and technology, diverse EY teams in over 150 countries provide trust through assurance and help clients grow, transform and operate.

Working across assurance, consulting, law, strategy, tax and transactions, EY teams ask better questions to find new answers for the complex issues facing our world today.

EY refers to the global organization, and may refer to one or more, of the member firms of Ernst & Young Global Limited, each of which is a separate legal entity. Ernst & Young Global Limited, a UK company limited by guarantee, does not provide services to clients. Information about how EY collects and uses personal data and a description of the rights individuals have under data protection legislation are available via ey.com/privacy. EY member firms do not practice law where prohibited by local laws. For more information about our organization, please visit ey.com.

© 2022 EYGM Limited.
All Rights Reserved.

ED None.

This material has been prepared for general informational purposes only and is not intended to be relied upon as accounting, tax, legal or other professional advice. Please refer to your advisors for specific advice.

ey.com