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Building agile supply chains through data-led decisions

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"Strategic shoring" is defined as changing the geographic footprint of a global supply chain to locations in the Americas, including Mexico, Central and South America, Canada and even within the US itself, to be closer to and therefore better serve the US.

Data and analytics capabilities are a critical area that US supply chain executives need to address if they want to achieve their strategic shoring ambitions. How can these executives leverage insights to their full potential and optimize their decision-making?

The stability of today's supply chain models depends on complex and interdependent variables that are susceptible to shifts. These include changing operating costs, shifting compliance rules and taxation policies set by new government administrations, as well as labor market shifts and uncertain geopolitical relations. With increasingly fragmented global trade flows and unprecedented climate fluctuations, robust data and analytics have become paramount to discerning the best way forward for supply chains.

Supply chain executives recognize this reality. That's according to new research from KPMG that canvasses the views of 250 US senior executives involved in supply chain development and strategy. This research unpacks the growing "strategic shoring" trend in the Americas, which is defined as the shift in a supply chain's geographic footprint to encompass more regions and countries closer to the US, such as Latin America and Canada.

As well as shortening supply chain lead times, reducing costs and strengthening efficiency, more companies are pivoting their US supply chains closer to home to bring stability and resilience to their operations. In fact, 75 percent of the supply chain executives surveyed say they have increased supply chain resilience through strategic shoring. And data analysis plays a fundamental role in effective strategic shoring decisions.

Figure 1: Three in four executives surveyed have already used strategic shoring to increase their supply chain resilience.
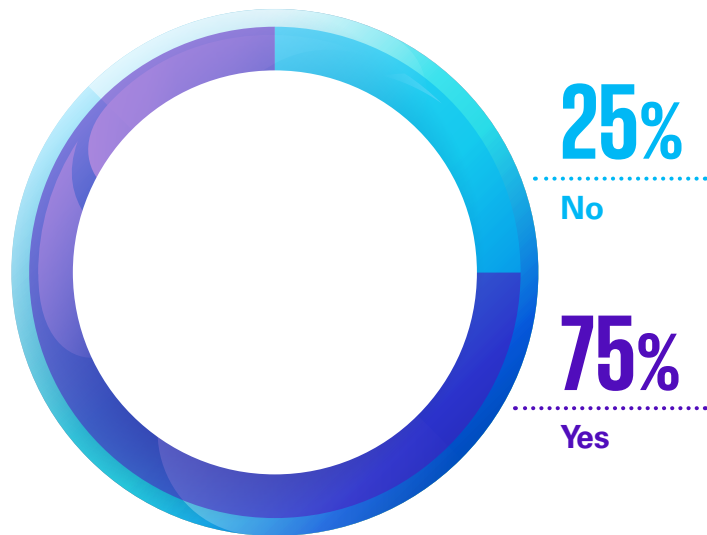
75%

75 percent of the supply chain executives surveyed say they have increased supply chain resilience through strategic shoring.

25%

No

75%

Yes

Strengthening the performance of a supply chain footprint

The supply chain executives surveyed data and analytics capabilities as the area most needing attention if they are to achieve their strategic shoring ambitions. This figure rises by 20 percentage points (to 63 percent) among "leader" organizations — companies that are "extremely satisfied" with the performance of their supply chains.

Figure 2: Executives with higher-performing supply chains are more focused on improving their data and analytics capabilities to enhance their progress.

Total response   Leaders
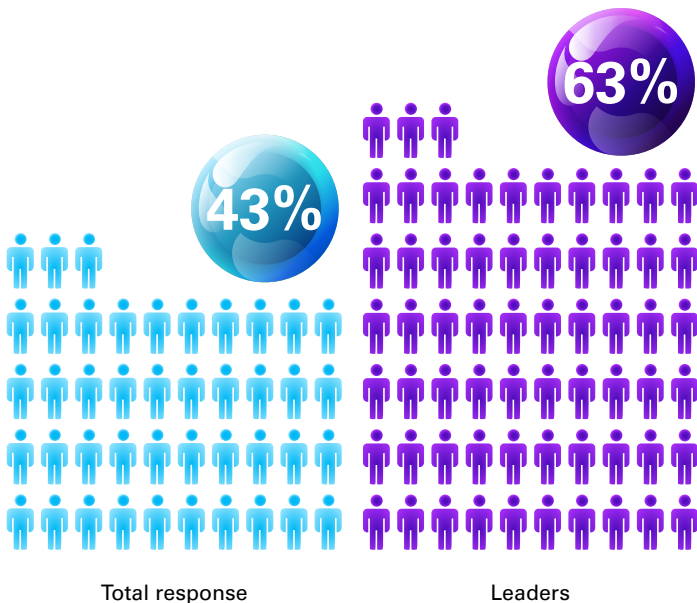
Data analytics of supply chain performance can identify which nodes may need to be relocated because of changes in regulatory policy, the labor market or customer demographics.

"Having a handle on your data analytics is critical to understanding potential impacts on your supply chain," agrees Doug Zuvich, Tax Partner, KPMG US, and Latin America Regional Managing Partner, Tax & Legal*, KPMG Americas. "Even if we're focused on the US market, broader global trends impact how companies are thinking about their supply chains for the future, and having data visibility in the supply chain is a major focus area."

From a comparative cost assessment for site selection to environmental, social and governance reporting, better data can provide better visibility, helping organizations to stay nimble and pivot their operations as required.

To accurately locate the problem areas in a logistics network, supply chain executives need to discern which insights are meaningful in the noise of data points available. "First, you must figure out what data points you need to make a good decision," says Martin VanTrieste, President Emeritus at pharmaceutical company Civica Rx. "And in my opinion, fewer, targeted pieces of data are better than having 1,000 data points that just create noise."

"As a leader of a large pharma organization, I only really needed one metric: product disposition cycle time, whether a product was being released in 14 days," VanTrieste adds. "Because if everything's working like a Swiss clock, that metric will be met. If there's any disruption in the manufacturing cycle, we would not meet that metric, and then could investigate and address the root causes. That metric was pretty much all I needed to look at."

Hard-wiring agility into supply chain design decisions

When organizations have a good level of data quality and integration in place, supply chain executives can lean on AI and big data learning models to embed agility into daily decisions in an automated way.

"I've seen products being prevented from rejection because big data learning models were able to intervene and correct the production process before it was too late," says VanTrieste. "Using these smart models for end-to-end supply chain management, collecting millions of relevant data points along the way, is guaranteed to make businesses more resilient."

> **Proactive exercises can help stress-test decisions, enhancing the agility of a company's response to future unexpected scenarios.**

Data insights also bring durability to the larger, more strategic decisions such as choosing new locations for supply chain components. Chris Callieri, Chief Supply Chain Officer, Victoria's Secret, says, "Rather than waiting weeks to access the needed intel, opportunities lie in connecting upstream supply chain data with internal systems. So execs can quickly assess consumer demand and then react swiftly to those demand signals." Executives should also look to predictive analytics techniques and models to map out contingency or response plans rather than just basing decisions on current influencing factors.

Ulrich Schmidt is the Principal and National Leader of the Site Selection and Project Development Practice for KPMG US. As he puts it, "How certain can you be that the tax environment today is the tax environment tomorrow? The same goes for the cost of utilities.

Yes, there's a good snapshot today that the data will show you, but how can you use this data and the analytics in forecasting to provide a 5-year, 10-year horizon and say, 'This is what we think is going to happen'? Proactive exercises can help stress-test decisions, enhancing the agility of a company's response to future unexpected scenarios.

73%

Overall, 73 percent of the executives surveyed say their companies have already employed strategic shoring to boost their supply chains' cost efficiency.

Overall, 73 percent of the executives surveyed say their companies have already employed strategic shoring to boost their supply chains' cost efficiency. From a data perspective on cost versus risk for today and tomorrow, companies need to have a clear picture of what demand could look like for their focus markets. This understanding should inform their responses and the capabilities they will likely need.

Mary Rollman, Principal and KPMG US Supply Chain Leader, believes that any demand evaluation should result in a forecasted range rather than a single figure. This range can help executives to more accurately "model different scenarios based on different potential outcomes of growth," she says. "Once you have that, it's then about the pressure tests. What if this happens? Does it break our model? If import tax goes up 20 percent, does it wipe out our business case immediately?"

> **Multilayered, customized analysis is really integral to making well-rounded strategic shoring decisions.**

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A multi-lens approach is also important for understanding the feasibility of a strategic shoring move from a talent perspective. Schmidt considers how a company that requires about 800 workers for a new manufacturing facility might address this issue and the problems it might face. "You're going to have to look at places where employees will come from, and you may find that data points indicate that labor is available. But, further analysis from other data sources and local insights may reveal that the labor is already spoken for. Multilayered, customized analysis is really integral to making well-rounded strategic shoring decisions."

While analytic skills and capabilities are critical to strengthening the performance of supply chains, the approach that organizations take to obtain the data is equally important. Most companies continue to bombard their supply base with demands from a myriad of different stakeholders, each with a different data collection system and approach. Suppliers are often overwhelmed by requests from different teams such as manufacturing, quality, ESG, regulatory, legal, tax and trade and customs. When these efforts are not coordinated, the data collection process is very expensive, inefficient and incomplete. One platform and approach for all supplier-related data collection is becoming increasingly important.

Sourcing data expertise for supply chain needs

The volume of data available will continue to grow, so data requirements in global supply chain management will also intensify. This growth will likely boost demand for individuals with the appropriate skill sets.

Executives with higher-performing supply chains ("leaders") are more aware of the urgency of filling skills gaps in their strategic shoring plans, and our research suggests that automation is helping to fill labor gaps. Nevertheless, businesses should act now to strengthen existing skill sets and enable the acquisition of new skills.

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Strengthening a workforce's skill sets and data management habits can enhance the quality of data-led decisions applied to supply chain design. Companies should collect high-quality data from credible sources to ensure that they can trust the data points on which their decisions are based.

Instilling robust data governance and analytics techniques, as well as performing routine data hygiene audits, can help guard against data integrity issues that could sabotage decision-making. These practices can help to provide a reliable foundation for deploying simulation models informed by artificial intelligence and machine learning. These models can make forecasts and test scenarios to bolster executives' strategic shoring decisions.

The necessity of good data practices is likely to become more important as data requirements become more involved, and the existing mandatory US import data requirements already stand as a key example here.

Data requirements are likely to grow amid an increase in trade policy complexity – with the EU Carbon Border Adjustment Mechanism indicating that carbon border policies are gaining momentum. Whenever US regulators begin to consider having reporting standards for carbon emissions, organizations will need talent with strong analytical and data skill sets.

Also, with global supply chain networks spanning thousands of suppliers and partners, employees with data expertise play a crucial role in ensuring organizations have robust mechanisms in place to oversee partner performance. "That means building a process when you onboard a new supplier to gather the right information and thinking about the data repository that will retain it," says Maura Hodge, Sustainability Reporting Leader, KPMG US. "Also, considering how you can run reports quickly and easily to then be able to meet your compliance requirements. And crucially, establishing a monitoring mechanism to make sure that your suppliers are actually doing the things that they say they do. It's not good enough just to have them sign a sheet of paper to say they are following policy; there needs to be actions behind their words."

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