TREND 6

Creating an agile supply chain

OVERCOMING THE VULNERABILITIES EXPOSED BY GLOBAL SHOCKS

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Mining companies have long understood the imperative of devising a global supply chain to help them manage costs and enhance efficiency. It took COVID-19, however, to put supply chain risk squarely in the spotlight. As companies look toward the future and beyond the pandemic, it is becoming clear that they will increasingly need to take steps to uncover and mitigate supply chain risks by illuminating their extended supply network, creating alternate supply lines, and reevaluating their inventory strategies. Reducing supply chain risk is key to creating more predictable operations and building trust with investors.

Mining companies have long recognized the inherent value located within the supply chain, though not many can definitively claim to have extracted this value through strategic sourcing or supplier rationalization. Opportunities continue to exist across inbound supply and integrated planning, with upward of 6–12% of a mining organization’s operating costs encapsulated within the supply chain. However, the focus on the supply chain has begun to shift from a cost and efficiency perspective to one of risk and whether supply chains as they are configured today could pose a risk to continuous operations.

With sophisticated global supply chain networks, mining companies are closely aware of their reliance on third parties in widely spread jurisdictions; however, COVID-19 truly exposed the vulnerabilities of this interdependence. As a result, mining companies are now being forced to reassess the resilience of their organization and global supply chain models. This is particularly evident within inbound supply, which holds significant risk, quite often outside the visibility and/or control of the mining organization.

Inbound supply chains could be used as a cost reduction lever as the results of optimization programs are directly tied to earnings before interest, taxes, depreciation, and amortization (EBITDA) improvements. This movement toward the lowest total cost of ownership has placed pressure on suppliers and built risk at multiple levels within the extended network. This risk has been exposed with the impacts of COVID-19 on global supply chain networks and has forced mining companies to adapt quickly, sometimes unwinding decisions made over the last two to three years.

While many mining companies have taken steps to mitigate risks in their supply chain, for most, the true nature of the risks still remains unknown. The rate of response and priorities have varied; however, there is still a need for companies to assess and manage the risk by illuminating the extended inbound supply network and actively managing it through a so-called control tower view: a central hub with the required technology, organization, and processes to capture and use transportation data to provide enhanced visibility. Balancing the inherent risk with continued cost focus will likely be key. Risk mitigation strategies should then follow suit, including establishing alternative supply sources—with an emphasis on building a sustainable local supply base—and reevaluating inventory strategies to have greater control over access to critical spares.
Illuminating the extended supply network

The lack of visibility for some mining organizations to accurately trace their supply chain beyond their tier-one suppliers, heightened the risk of supply shortages and disruptions as COVID-19 spread across the globe.

Part of the challenge is that extended supply chains are unavoidably global. Even mining companies that believed they were predominantly sourcing through local suppliers quickly learned that the many raw materials originate in foreign countries and are distributed through local agents.

Approximately 25% of the supply side disruptions occur at tier two plus, which makes it critical to understand and illuminate risks well in advance, providing enough decision-making space for mitigation actions. Greater visibility into the extended inbound supply network allows for the identification of risks that are critical to cost, schedule, performance, security, and resilience. Supply chain illumination will remain critical, as visibility into only tier-one suppliers will likely be insufficient for most companies that are looking to manage supply disruption risks.

“As the supply of materials began to falter, companies found themselves asking difficult questions,” says Rhyno Jacobs, director, Consulting, Deloitte Africa. “Do you need a sovereign source for certain supplies? If so, which supplies? And what is a ‘sovereign source’? How do you get sovereignty when your orders account for only a small component of global demand? Does a fully local supply chain count as security? What happens if that supply chain is confined to an at-risk source? What does good hedging really look like?”

In answering these questions, many companies have realized that they have not built sufficient redundancy into their supply chains; meaning, even when they have multiple suppliers, inventory still comes from one source. It doesn’t help that the suppliers themselves often lack an understanding of how supply interruptions may affect their own operations. Even if a supplier believes it has not been adversely impacted, mining companies likely need independent confirmation.

CASE STUDY

One mining company recently shifted focus toward illuminating their supply base. This includes tracing the inbound supply chain back to the raw materials and then utilizing a control tower to integrate their supply management, logistics, and demand management.

By doing so, the organization is better able to understand the specific risk lens they need to apply to their supply lines—financial, geopolitical, operational—and proactively monitor red flags as they arise in real time.

While COVID-19 helped highlight the vulnerability, the actions taken have provided a key input to their risk mitigation strategy for future supply chain disruption.

This illumination and subsequent control tower view allows for mitigation strategies to be put in place across supply network risk, production planning, logistics, and quality. It can drive data visibility, proactive alerts, prescriptive insights, and self-driving execution to improve overall resilience and allow organizations to make the shift from responding to the pandemic to thriving in the future.

Mitigating the risks

Several mining organizations have acted swiftly to mitigate inbound supply risks. Two major areas include the move to create alternate supply lines and reevaluating inventory strategies.
Creating alternate—and sometimes local—supply lines. To mitigate risks with security of supply, many mining organizations have assessed or implemented an action plan that creates an alternative supplier for key categories. Some have moved toward a more sustainable and local supply base.

But the answer isn’t necessarily local; this requires evaluation. Suppliers with more complex, far-reaching supply chains may be able to provide better value and cost while local or regional firms may be able to guarantee security of supply. Understanding the risk adjusted trade-offs as well as community obligations to create local content requires a careful data-driven decision-making process.

A resilient supply chain may require temporary or permanent alternate supply sources for materials. This approach reduces the number of choke points that could develop by working around congested ports of entry, mitigating shortages due to supply rationing and insurance against the collapse of suppliers. It is important to realize that even as regions emerge from the pandemic, supplier workforces could be forced to reduce operations or fully quarantine should the virus reemerge in specific towns or workplaces. Suppliers that are likely to become more permanent members of the supply network should review the tax, customs, and duty considerations.

Reevaluating inventory strategies. Another approach to mitigating risk is to adjust the inventory strategy of an organization or specific region or mine site. Mining companies at all levels should reevaluate their strategy.

Central to this is striking the appropriate balance between reducing supply risk and improving the working capital position.

The approach to inventory has taken a more practical slant and can differ by region. Additionally, mining organizations are focused on the risk profile of specific categories, sometimes down to individual critical spares themselves. Responses have included redefining parts that are considered critical spares and stocking up and reassessment toward consignment or vendor-managed inventory models.

Several mining organizations have acted swiftly to mitigate inbound supply risks. Two major areas include the move to create alternate supply lines and reevaluating inventory strategies. These more specific, regionalized, and practical approaches to inventory can be required to counter the vulnerabilities exposed by the pandemic.

Although there are no hard and fast answers to any of these challenges, one thing is clear: COVID-19 may be the black swan event that finally forces many companies, and even entire industries possibly, to rethink and transform their global supply chain model.
• **Get granular.** Companies that gain an accurate, granular understanding of their integrated supply chains—from demand through to the production of individual component parts—could be better placed to make proactive adjustments before supply issues occur and to make informed choices about where to apply their working capital to get the greatest impact.

• **Illuminate the extended supply network.** Mining companies should gain as much visibility as possible into the status of their tier-two suppliers—and beyond—so they have time to work with tier-one suppliers on alternative plans and/or to proactively mitigate supply-side constraints. Companies with complex supply chains will likely benefit from digital approaches to facilitate the analysis of their supplier networks and identify risks and opportunities. Augmented intelligence and machine learning, for instance, can enable rapid modeling of complex supplier networks and deliver multtier insights.

• **Source strategically.** While working with multiple suppliers can help hedge risk, too many suppliers can make it harder to access key materials. By simplifying their supplier portfolio, mining companies can reduce the variability of their inventory.

• **Refine production schedules.** Variable supply and ongoing supply disruptions mean companies should align their production schedules to inventory availability to avoid the risk of stock-outs. Traditional planning and scheduling processes and frozen periods to allow efficient production execution are unlikely to work well in this environment. Instead, companies should engage in shorter-cycle planning to identify emerging risks and respond proactively.

• **Stock up.** Stocking excess inventory may seem like a logical solution to potential supply disruptions, but it raises strategic questions. Who should bear the cost of storing additional inventory—the mining company or the supplier? To keep costs off their balance sheets, companies should be selective about their inventory investments. To prevent over-stocking, it may make sense to use predictive technologies to forecast demand patterns so as to plan purchases more strategically.

• **Renegotiate.** While the costs of raw materials, such as fuel and electricity, are dropping in response to market forces, the same is not true for industrial products, such as fixed plant, equipment, labor, and materials. To keep expenses under control, it’s incumbent on mining companies to actively renegotiate their contracts to reset prices where possible.

• **Anticipate bankruptcies.** Sadly, not all companies will successfully navigate this crisis. As the business environment rebounds, some direct customers and suppliers may no longer be available. Proactively assessing customer and supplier financial health—both independently and through regular dialogue—can help identify challenges and potential solvency risks within the supply network.

• **Safeguard the logistics supply chain.** Develop operational scaling plans for a staged return to work by identifying “must have” services and roles, and devising both temporary and permanent succession plans. Consider staggering return dates based on prioritization, adjusting shift schedules and/or working hours to meet evolving operational needs. Adjust or establish approaches to workforce forecasting, in collaboration with unions where applicable, that use strategic scenario planning, to account for both real-time and anticipated future changes to workforce requirements.
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