AIB REVIEW
By the Australian Institute of Business

Supply Chain Resilience Amid Geopolitical Disruption: Lessons from the Pandemic

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Introduction

"What's your contingency plan when the next global disruption hits?" – Andy Mekhael.

Most executives still can't answer that question with confidence. From the COVID-19 pandemic to the Russia-Ukraine conflict and escalating United States (US) - China tensions, global supply chains have lurched from crisis to crisis, exposing vulnerabilities many didn't know existed. For decades, business leaders pursued lean operations and lowest-cost sourcing. But this pursuit of efficiency has now become a liability. In a world marked by geopolitical volatility, resilience is no longer a luxury - it's a survival imperative.

This article explores how forward-looking firms are responding by reconfiguring supply networks, investing in digital infrastructure, and embedding a culture of adaptability across operations. These aren't optional upgrades; they're existential decisions for businesses aiming to thrive in the new normal.

The Shift from Just-in-Time to Just-in-Case

Prior to the pandemic, just-in-time (JIT) was the gold standard in supply chain management, celebrated for its focus on lean inventory, efficiency, and cost minimisation. However, the sudden closure of borders and widespread lockdowns brought production lines to a grinding halt, leaving companies without critical inputs and unable to meet customer demand.

This experience triggered a widespread re-evaluation of JIT principles, revealing the risks of over-reliance on single suppliers and geographically distant manufacturing. As a result, firms began to shift towards just-in-case (JIC) strategies, where they maintain higher inventory levels and develop multiple supplier relationships to protect against future disruptions. This approach aims to create buffer stocks of essential components, reducing the risk of production stoppages during unexpected crises.

For example, Toyota, long a pioneer of JIT, has now adopted a more balanced model that includes holding additional semiconductor stocks, a move that reflects the need to blend efficiency with resilience in today's volatile environment. Additionally, industries across automotive, electronics, and pharmaceuticals are now investing in supplier diversification and risk assessments to build shock absorbers into their supply networks.

While JIC may involve higher holding costs, it provides a crucial insurance policy against the kinds of supply chain shocks experienced during the pandemic and beyond.

Nearshoring and Regionalisation Gain Momentum

Geopolitical tensions have further accelerated the move away from hyper-globalised supply chains, driving firms to re-evaluate their dependence on far-flung production hubs. Many companies are adopting nearshoring strategies, relocating production closer to key markets to reduce exposure to trade disputes, regulatory barriers, and logistical uncertainties.

The Russia-Ukraine war highlighted Europe's over-reliance on energy and critical raw materials from specific regions, forcing manufacturers to diversify their supply sources and reconsider regional partners. Similarly, escalating US-China trade tensions have prompted American firms to invest in alternative manufacturing hubs in Mexico and other Latin American countries to reduce vulnerability to tariffs and export restrictions. Nearshoring offers multiple advantages, including reduced lead times, improved agility in responding to market changes, and enhanced control over quality and compliance standards.

For Australian firms, particularly small to medium enterprises in sectors like advanced manufacturing, agribusiness, and medical devices, these dynamics carry particular weight. Exposure to Asia–Pacific supply routes, reliance on critical raw materials (such as lithium, rare earths, and pharmaceuticals), and sensitivity to tariffs or regulatory shifts mean that resilience strategies are no longer theoretical but essential to competitiveness in the region.

The Role of Digital Tools in Risk Management

The increasing frequency and intensity of geopolitical disruptions have exposed the critical need for real-time visibility, adaptability, and proactive decision-making within supply chains. Firms that fail to leverage advanced digital tools to manage risk are not merely lagging; they are leaving their operations exposed to significant financial and reputational damage.

Digital platforms that offer end-to-end supply chain visibility have become essential for tracking inventory, shipments, and supplier performance across geographies. This visibility enables organisations to detect disruptions early, whether political unrest, export restrictions, or logistics bottlenecks, and to respond with agility rather than delay. For instance, predictive analytics, artificial intelligence (AI) and machine learning models can forecast supply constraints and demand fluctuations based on historical and real-time data, equipping managers with insights for more robust contingency planning.

AI and machine learning can further enhance operational resilience by enabling dynamic decision-making across complex variables. AI-powered systems can identify optimal rerouting options during geopolitical blockages, recommend adjustments to procurement cycles, or even automate routine inventory decisions, thus preserving supply continuity and mitigating loss. During the COVID-19 pandemic and subsequent port congestion, companies with AI-enabled networks outperformed their peers in response times and customer service continuity.

In sum, digital tools are not merely about enhancing efficiency; they are foundational to risk management in a global environment characterised by instability and uncertainty. Companies that integrate these technologies

not only gain a tactical advantage but also position themselves for long-term resilience in the face of ongoing geopolitical volatility.

Building a Culture of Resilience

Resilient supply chains are not just about technology and logistics; they also depend on fostering the right mindset and organisational culture. Companies that embrace a culture of collaboration, transparency, and continuous improvement across their supply networks are better positioned to adapt quickly when disruptions occur. When suppliers and partners understand the business's long-term resilience objectives, they are more likely to prioritise reliability and quality, even in times of crisis. For example, conducting regular risk assessments and involving suppliers in these exercises can help identify vulnerabilities and co-develop mitigation strategies. Furthermore, investing in workforce training and development ensures that staff are equipped to handle unexpected challenges with agility and creativity.

Companies that empower their teams to innovate and problem-solve are more likely to navigate geopolitical shocks and supply chain crises effectively. Cultivating resilience is not a one-off project but an ongoing commitment to integrating risk management into the fabric of the organisation. As KPMG (2025) notes, *Enterprise resilience is not a one-time achievement but an ongoing process that demands constant attention and nurturing.* Ultimately, a culture of resilience transforms supply chains from being purely transactional into dynamic, adaptive ecosystems that can weather even the most unpredictable geopolitical storms.

Practical Playbook for Resilient Supply Chains

To move from theory to action, firms must adopt structured, proactive measures that embed resilience into everyday operations. The following playbook synthesises strategies drawn from both academic research and industry practice.

- Map tier-1 and tier-2 suppliers for all critical stock-keeping units (SKUs)
- Set inventory buffer targets with clear trigger rules for replenishment
- Dual-source at least one alternative supplier per critical component
- Implement predictive alerts (lead-time spikes, port congestion, policy changes)
- Run quarterly disruption tabletop exercises with key suppliers.

Conclusion

Geopolitical disruptions are here to stay, and the pandemic has made one thing clear: **resilience is no longer optional.** Leaders can no longer afford to treat resilience as a future investment. It demands action now: diversifying suppliers, investing in predictive analytics, and embedding agility into corporate culture.

Is your supply chain ready for the next disruption, or will your business be the next cautionary tale?

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Andy is an academic and business leader with a deep commitment to integrating practical business and theology. His writing explores the intersection of ethics, justice, and economic systems, aiming to inspire integrity, stewardship, and transformative impact in the marketplace. Andy's work bridges the gap between justice, economics, and ethical business practices, equipping readers to navigate complex challenges with wisdom and ethics.

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