



PART 2

Read the text below and answer questions 14–26.

THE RESILIENCE OF GLOBAL SUPPLY CHAINS

A

For decades, global supply chains were engineered around efficiency: minimise unit costs, reduce inventory, and compress lead times through Just-in-Time logistics. Recent shocks—from pandemic-era shutdowns to extreme weather and geopolitical frictions—have made it harder to treat disruption as an occasional anomaly. In response, firms and governments have begun to speak in the language of resilience rather than pure optimisation. In this context, resilience is not simply “surviving” a shock; it refers to an organisation’s capacity to anticipate disruption, absorb it without systemic collapse, and recover while maintaining essential flows of goods and inputs. The emerging paradigm is therefore closer to Just-in-Case planning, where redundancy and flexibility are treated as productive assets rather than as waste, even though they can raise short-run costs.

B

A central obstacle to resilience is opacity across tiers. Many firms maintain detailed relationships with tier-one suppliers but possess only partial knowledge of sub-suppliers providing chemicals, packaging films, specialised tooling, or niche electronic components. This matters because the most consequential bottleneck is often not the largest facility, but a small upstream node with limited capacity and few substitutes. Moreover, weak visibility can amplify the bullwhip effect: small fluctuations in downstream demand, or even rumours of scarcity, prompt exaggerated ordering and hoarding behaviour upstream, which then distorts signals and worsens shortages. Multi-tier mapping—identifying dependencies several layers deep—is therefore increasingly promoted as a resilience foundation. Yet it is time-consuming, technically complex, and politically sensitive, because suppliers may resist revealing commercial details that could expose margins, alternative customers, or strategic vulnerabilities.

C

Inventory strategy is another arena where the efficiency–resilience trade-off becomes concrete. Lean systems reduced warehousing by assuming transport predictability and stable demand; in such designs, even a low-cost part can halt a high-value production line if it arrives late. As a result, many firms now distinguish between “ordinary” stock and strategic buffers for critical items with long lead times or low substitutability. Buffer inventory is framed less as waste and more as insurance against disruptions whose probability is uncertain but non-trivial. However, this insurance has a premium. Holding



stock ties up liquidity, increases storage costs, and can create obsolescence risk—especially in sectors where components change quickly or where shelf life is limited. The analytical challenge is therefore not to re-stock everything, but to identify where slack is most valuable: which nodes, parts, and time windows would otherwise trigger cascading stoppages.

D

Diversification is often presented as the obvious remedy: dual sourcing, multi-sourcing, and geographic dispersion reduce reliance on a single factory or region. In practice, however, the benefits are uneven. Qualifying a second supplier can be slow because it involves audits, tooling adjustments, and performance verification; for regulated industries it may also require re-certification. In addition, global production is frequently clustered. Certain semiconductors, specialty chemicals, or rare manufacturing capabilities are concentrated in a few locations, so apparent diversity at the tier-one level may conceal upstream concentration. This has led to strategies such as nearshoring and “friend-shoring,” where firms shift portions of production closer to end markets or toward politically aligned jurisdictions. Another variant, sometimes described as “China Plus One,” keeps an established base in China while developing alternative capacity elsewhere to mitigate geopolitical and logistical exposure. Yet these moves do not eliminate trade-offs: they can raise costs, reduce scale efficiencies, and transfer risk rather than remove it.

E

Digital tools have become central to resilience discussions, but their limits are increasingly explicit. Real-time tracking, automated alerts, and predictive analytics can improve coordination by accelerating the detection of delays and enabling scenario planning. Nevertheless, information does not create capacity. If a critical input has no approved substitutes, limited substitutability, and no spare production slots available at alternative plants, dashboards largely confirm the shortage rather than solve it. Effective digital resilience therefore requires coupling data with redesign and contractual options. Redesign can include standardising components across product lines, pre-approving substitutes, and simplifying specifications so that multiple suppliers can meet them. Contractual options can include reserving surge capacity, flexible transport agreements, or contingent purchase commitments. Without these complementary moves, visibility can produce faster awareness but not faster recovery.

F

Resilience is also shaped by policy and compliance environments, particularly as sustainability and governance requirements become stricter. Traceability expectations, labour audits, and emissions reporting can strengthen accountability and reduce



reputational risk, but they also add an administrative layer that can become a failure point under stress. In some sectors, shipments can be delayed not because parts are unavailable, but because a certificate is missing, an audit record is incomplete, or a supplier cannot demonstrate verified origin for a material. When border procedures tighten or when sanctions and export controls change abruptly, the friction of documentation can rival the friction of physical transport. Firms therefore increasingly treat resilience as partly institutional: building robust governance processes, harmonising data standards, and ensuring that compliance systems remain functional during crises rather than collapsing into manual workarounds.

G

Finally, the human and organisational dimension is often decisive. A resilient supply chain is not only a network of assets but also a set of routines: escalation paths, cross-functional coordination between procurement, engineering, logistics, and finance, and practiced playbooks for rerouting, substitution, and prioritisation. After major disruptions, many organisations formalise organisational learning through after-action reviews, aiming to identify the true constraint—whether a hidden sub-tier dependency, a documentation bottleneck, or a slow internal decision process—and then update policies accordingly. The most robust approach is therefore best described as a portfolio rather than a single tactic: mapping dependencies, holding targeted buffers, diversifying suppliers where feasible, redesigning products for flexibility, maintaining contractual options, and strengthening governance. In this view, resilience is a capability built over time—an acceptance that shocks will recur, and a commitment to adapt without breaking.

Questions 14–18

Complete the sentences below. Choose **NO MORE THAN TWO WORDS** from the text for each answer.

14 The passage explains that resilience includes the ability to anticipate shocks, absorb them, and

15 Mapping multi-tier dependencies requires cooperation from suppliers who may be reluctant to share

16 Some firms now treat buffer inventory for critical items as

17 Dashboards mainly confirm a shortage if a critical input has no substitutes or spare

18 After disruptions, firms increasingly conduct to identify constraints and update policies.



Questions 19–22

Select the correct answer.

19 Why is mapping multi-tier dependencies described as difficult?

- A** Tier-one suppliers generally lack records of the materials used in their own production.
- B** The process is complex and depends on suppliers disclosing information they may regard as commercially sensitive.
- C** Mapping is useful only after a disruption has already revealed an upstream bottleneck.
- D** Standardised components make relationships between different supply tiers harder to identify.

20 What limitation of diversification does the passage emphasise?

- A** A second supplier must always depend on completely different raw materials from the first.
- B** Geographic dispersion removes risk only when firms retain the same economies of scale.
- C** Nearshoring eliminates logistical exposure but increases dependence on a single political region.
- D** Apparently different suppliers may still rely on production concentrated in the same upstream locations.

21 What is required for digital tools to improve resilience effectively?

- A** Information must be combined with measures such as product redesign, approved substitutes, and contractual options.
- B** Automated alerts must provide sufficiently early warning even when no alternative capacity exists.
- C** Scenario planning must replace the need to approve substitute components before a disruption.
- D** Surge capacity should be reserved only when real-time tracking systems are unavailable.

22 What does the passage suggest about sustainability requirements and resilience?

- A** Stronger traceability requirements reduce risk without adding administrative pressure during disruptions.
- B** The physical availability of components normally guarantees delivery despite incomplete compliance records.
- C** Missing certificates or audit records can delay shipments even when the required parts are available.



D Harmonised data standards remove the need to maintain compliance systems during crises.

Questions 23–26

Choose **TRUE** if the statement agrees with the information given in the text, choose **FALSE** if the statement contradicts the information, or choose **NOT GIVEN** if there is no information on this.

23 The passage suggests that lean systems can be vulnerable when transport delays occur.

24 The passage specifies the average time required to qualify a second supplier.

25 The passage states that having several tier-one suppliers necessarily removes upstream concentration.

26 The “China Plus One” strategy retains an established production base in China while developing additional capacity elsewhere.

Answer Key

14. recover

15. commercial details

16. insurance

17. production slots

18. after-action reviews

19. B

20. D

21. A

22. C

23. TRUE

24. NOT GIVEN

25. FALSE

26. TRUE