

Resilience to Disruption in ...	Action	Advantages	Disadvantages
Supply	Use multiple and/pr local sources in different locales.	Spreads risk across multiple firms, multiple locations; local source protects against international supply shortages.	Higher cost to qualify supplier, lower volume leverage, no assurance additional supplier is more resilient.
	Use single source	Known supplier, high supplier commitment, leveraged volume.	Vulnerable to disruption unless supplier has multiple flexible sites, backup plans.
	Contract for supplier flexibility.	Contract obligates supplier in advance.	Potentially higher cost per unit, may entail fixed costs for "take or pay" committed volume.
	Modify inventory levels.	Right parts inventory and risk pooling may reduce inventory costs.	Requires periodic analysis by item as conditions change.
	Modify product to use standard parts.	Reduces part and inventory cost, complexity.	Costly to modify existing materials standards.
Transportation	Prepare for and use multiple modes.	Pre-disruption relationship ensures support during crisis.	May need to commit volume to the alternate modes to get access during disruption
	Use spot market for capacity.	Efficient transaction with no upfront or lasting commitment.	Unknown carrier means added risk, potential for high pricing.
	Use logistics providers to source transportation.	Providers have greater leverage and access.	Requires commitment (volume, cost) and relationship with logistics provider.
Production facilities	Use multiple sites, each making multiple products.	Enables shifting production around locations.	Requires standardization in production operations, additional capital for additional facilities.
	Modify inventory levels and policies.	Right finished-goods-inventory levels and risk pooling may reduce inventory costs.	Requires periodic analysis, potential redesign of supply network.
	Modify product to use standard processes.	Leverages common processing capabilities for lower cost, easy backup available.	Costly to modify product and production processes.
	Identify and contract backup production facilities.	Committed backup assured, potential to co-locate at supplier or customer.	Not dependable without contingency contract for the facilities in disruption.
Communications	Use full range of communication media.	Able to communicate in nearly any event.	Must maintain a broad range of old and new technology.
	Back up data.	Protects against data loss.	Still requires physical system in event of full system loss.
	Contract for backup IT system	Provides for near-term system availability.	Potential delay in immediate response to massive system disruption.
	Set up and operate parallel or mirrored IT system.	Affords immediate system availability.	Requires building, operating, and maintaining separate system in protected environment.
Human Resources	Develop cross-trained workers.	Enables shifting of employees and production as needed.	Must cross-train employees and modify work system to utilize multi-skilled employees.
	Modify production process for unskilled labor.	Allows rapid increase or decrease in capacity.	Requires simplification of production process, not always feasible.
	Back up knowledge.	Best practices captured and documented.	Requires significant investment to capture and maintain knowledge in useful form.

