**Supply Chain Management (Resilient)**

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| **Resilient Supply Chain:** Manage risk. |
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| **Resilient Supply Chain** |
| A supply chain that mitigates risks through preparing, responding, and recovering from disruptive supply chain events or threats. |

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| *Supply Chain Industry:* |  |
|  |  | *Supply Chain Initiatives* |  |
|  |  | Lean(Cost,Waste) | Green(TBL,CSR) | Resilient(Risk) | Responsive(Agile) | Smart(Technology) |  |
| *Key Supply Chains* | Commodity Supply Chain |  |  |  |  |  |  |
| Global Supply Chain |  |  |  |  |  |  |
| Service Supply Chain |  |  |  |  |  |  |
| Reverse Supply Chain  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  | *Functions* | Inventory | Logistics | Relationships | Information | Strategy |  |
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***What is Resilience?***

 (React, Respond, Recover, Return) from (Known-Known, Known-Unknown, Unknown-Unknown Risks)

***What is a Resilient Supply Chain?***

(Supply Chain Risk Events vs. Supply Chain Disruptions)

**Risk Management**

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| Known-Known Risks | Supply Chain Management |
| Known-Unknown Risks | Supply Chain Risk Management |
| Unknown-Unknown Risks | Supply Chain Resiliency Management |

**Supply Chain Management**

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| **Risks** | **Events** | **Consequences** | **Response** | **Resilience** |
| Known-Known | SRMERPCRM | QualityContinualImprovement | SCOR Model | Low Requirements |
| Known-Unknown | MarketEconomyCulture | CostService Level | Risk AcceptanceRisk TransferenceRisk Mitigation | Moderate Requirements |
| Unknown-Unknown | CatastrophesUprisingsSubversion | DisruptionDevastation | RedundancySensing & RespondingAdaptability | High Requirements |

***How do you develop a Resilient Supply Chain?***

(Prepare, Respond, Improve)

**Resilient Supply Chain Development**

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| Prepare(Before) | Respond(During) | Improve(After) |
| Prepare(Characteristics of Event Mgt & Disruption Analysis) | Respond (Characteristics of  Time: Quick Solutions Functionality: Complete  Quality: Enhanced) | Improve(Characteristics of Internal Culture & External Competitiveness) |
| >Event Management: Risk AnalysisKnown-Known RisksKnown-Unknown RisksUnknown-Unknown Risks>Disruption Analysis -Supply Chain Structure --Redundancy of Systems --Flexibility of Policies/Processes  --Readiness of Human Resources -Response Preparation --Recognition of Events, Patterns, Trends --Evaluation of Type, Level, Scope --Mitigation of Probability, Consequences --Development of Plan | -Communication & Information-Critical Solution Points-Identify Minimum Resources-Delegate Authority to Champions-Coordinate Solutions-Transfer Solutions to Strategies |  |

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| Further Global Supply Chain Resilience Issues -Security (IT, IP, People) -Sustainability (Environmental & Sociopolitical) -Political Coordination and Trust |

***References***

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| From SupplyChain 24/7.Article based on authors from Michigan State University.From SupplyChain24/7: <https://www.supplychain247.com/article/understanding_supply_chain_resilience>  |
| Time Series Display of Supply Chain Resilience Factors | Tree of Supply Chain Resilience |

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| From HBR: Harvard Business Review. By Paul Michelman<https://hbr.org/2007/08/building-a-resilient-supply-ch> |
| Companies can develop resilience in three main ways: increasing **redundancy**, building **flexibility**, and changing the corporate **culture**. The first has limited utility; the others are essential. |

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| From pwc.Link: <https://www.pwc.com/us/en/services/consulting/risk-regulatory/supply-chain-resilience.html>A 2011 article presenting pwc approach to resiliency. |
| Addressing risks:1. Anticipate risks2. Assess risks3. Act against the risks4. Designate a business continuity coordinator | Resilient environment:-Make risk management ongoing-Develop a partnership approach-Understand the culture |

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| From Gartner. Link: <https://scholar.google.com/scholar?q=gartner%27s+article+on+resilient+supply+chains&hl=en&as_sdt=0&as_vis=1&oi=scholart>Scholarly articles on Resilient Supply Chain Analysis. |

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| From SupplyChain24/7 all 24 papers on supply chain resilience:[https://www.supplychain247.com/search/results/search&category=papers&keywords=Resilience/](https://www.supplychain247.com/search/results/search%26category%3Dpapers%26keywords%3DResilience/)  |