White
Paper
Compact

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the supply chain engineers

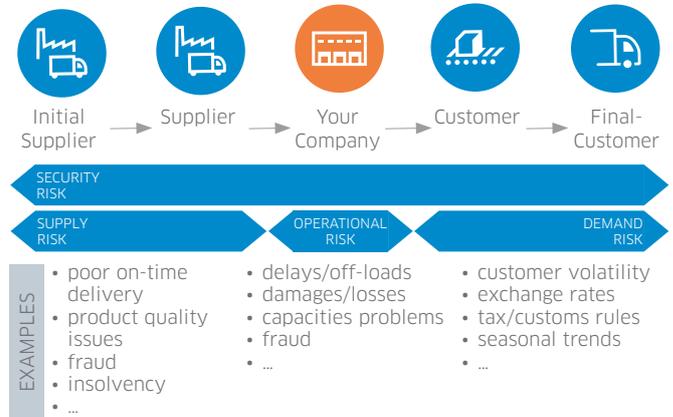# Artificial Intelligence is boosting Post-COVID-19 SCRM

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Supply Chain Risk Management (SCRM) is becoming most important COVID-19 topic
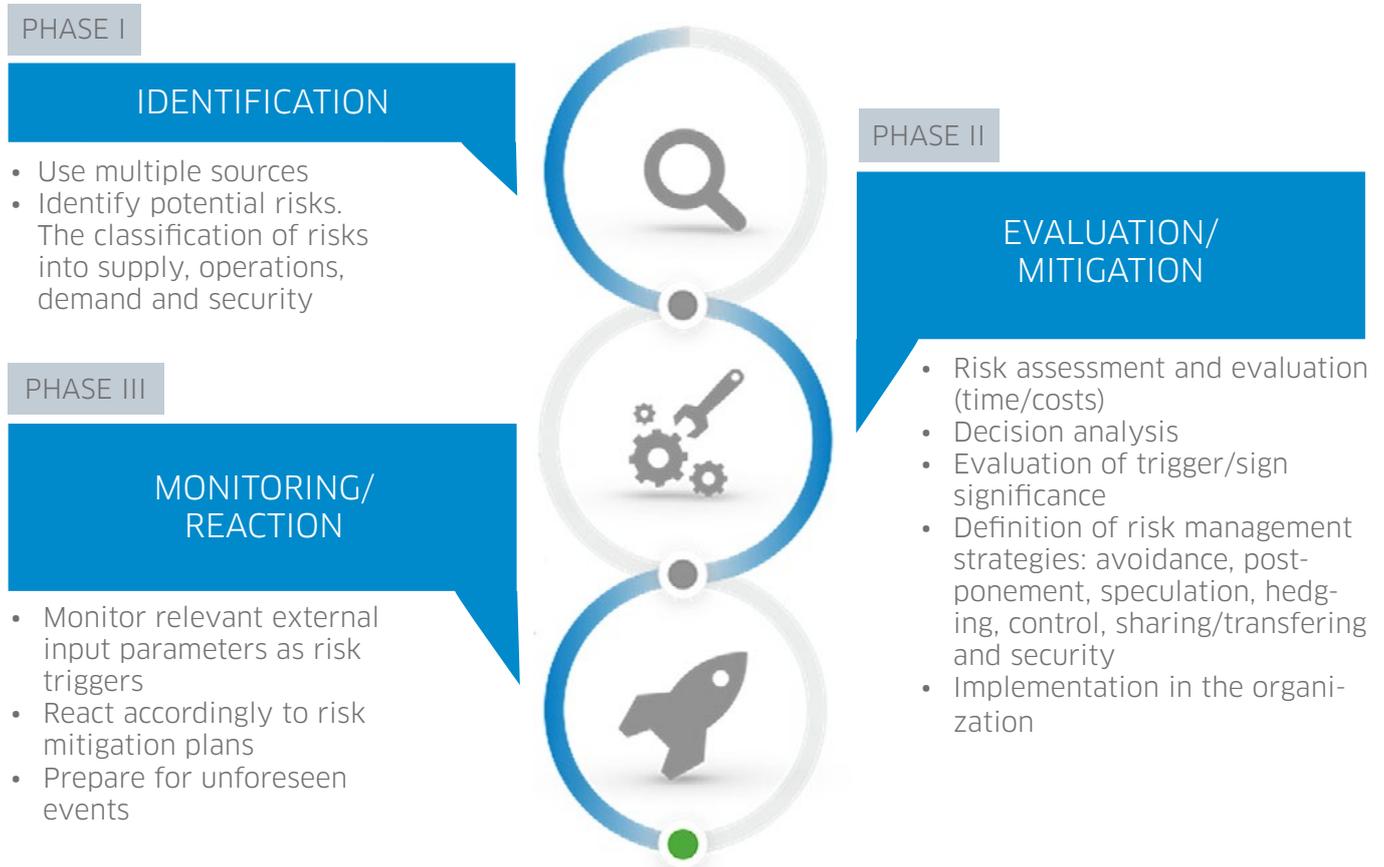
Managing supply chain risks has received increased attention in recent years, aiming to shield supply chains from disruptions by predicting their occurrence and mitigating their adverse effects. COVID-19 showed us how vulnerable current supply chains are.

Supply chain risks can be differentiated into security risks and supply risks. Supply chain risk occurs in both inbound and outbound supply chains – COVID-19 touched all of these risks.

Initial Supplier → Supplier → Your Company → Customer → Final-Customer

SECURITY RISK

SUPPLY RISK — OPERATIONAL RISK — DEMAND RISK

EXAMPLES

- poor on-time delivery
- product quality issues
- fraud
- insolvency
- …

- delays/off-loads
- damages/losses
- capacities problems
- fraud
- …

- customer volatility
- exchange rates
- tax/customs rules
- seasonal trends
- …

3 Phases of Supply Chain Risk Management

Supply chain risk management (SCRM) encompasses a wide variety of strategies aiming to identify, evaluate, mitigate, monitor and react to unexpected events or conditions which might have an impact (mostly adverse) on any part of a supply chain. SCRM strategies often depend on rapid and adaptable decision-making which is potentially based on large, multidimensional data sources.

PHASE I

IDENTIFICATION

- Use multiple sources
- Identify potential risks. The classification of risks into supply, operations, demand and security

PHASE II

EVALUATION/ MITIGATION

- Risk assessment and evaluation (time/costs)
- Decision analysis
- Evaluation of trigger/sign significance
- Definition of risk management strategies: avoidance, postponement, speculation, hedging, control, sharing/transfering and security
- Implementation in the organization

PHASE III

MONITORING/ REACTION

- Monitor relevant external input parameters as risk triggers
- React accordingly to risk mitigation plans
- Prepare for unforeseen events

Why Artificial Intelligence in SCRM?

These characteristics - especially the monitoring/reaction processes - are making Supply Chain Risk Management (SCRM) an excellent application area for Artificial Intelligence (AI) techniques.

Artificial Intelligence (AI) offers huge benefits to supply chain managers, but only if it is based on solid fundamentals that take into account the diverse and dynamic nature of today's modern supply chains.

In order to get the optimal value in Supply Chain Risk Management (SCRM), the AI solution comes with some pre-requisites. You must have access to real-time data inside and outside your company (and permission to use it), focus on end-consumer KPIs (as service levels and end-to-end costs) and the calculation of trade-offs in terms of cost of change against incremental cost changes for all decisions. The AI system must be permanently (vs. periodically) observed and adjusted, effectively linked to decision execution, and thus leading to a minimization of user interaction/engagement. This is only on an exception basis, and with the capability to work with real Big Data.

BEST PRACTICES FOR SUPPY CHAIN RISK MANAGEMENT

1. **IDENTIFICATION/MONITORING:** Artificial intelligence (AI) to analyze Big Data, with the high level automation of the processes involved in supplier risk management (SRM) to collect, analyze and manage supplier information

2. **IDENTIFICATION/MONITORING:** Integration of supplier performance information into the analysis for insight into potential financial/fraud issues - AI helps to identify behavior patterns, indicating potential fraud

3. **EVALUATION/MONITORING:** Identification/definition of distinct red flags which indicate problems/exceptions and use technology to automate their early detection based on robust/reliable statistical analysis

4. **MONITORING:** High level Integration of SCRM platforms with procurement and supply chain management (SCM) software systems, including software for spending, visibility, e-sourcing, purchase-to-pay, contract management and compliance

5. **MONITORING/REACTION:** Implementation of dashboard tracking and reporting supply risk metrics to give the executive team access to real-time observations into risk factors and triggering adequate mitigation actions. The SCRM systems suggest potential mitigation action, supported by AI based on past experience and current environmental factors

6. **REACTION:** Building an agile organization, handling the upcoming risks/exceptions which may differ from SOPs (standard operations procedures) and proposed mitigation measures

Miebach Consultants are successfully designing supply chains since almost 50 years. We know AI and its application in supply chains and in SCRM.

Get in touch with us if you to discuss how to manage your current challenges.