



*Supply Chain Risk Management*

23-09-2024

# Supply Chain Risk Management

Course code: PS192 From: 23-09-2024 Venue: - Course Fees: £

## Introduction

Supply Chains have evolved into multi-structural dynamic systems that are vulnerable to disruptions with a significant impact on the business and performance of entities. Supply chain risk management is used in modern times to identify potential sources of risks, their potential influences, and propagation through the supply chain, as well as to plan and implement appropriate actions to remove, reduce, or mitigate supply chain disruptions.

Risk management has become a critical challenge for supply chain managers as a result of increased global competition, rising cost pressures, rising customer expectations, geopolitics, and increasing complexity.

We must consider uncertainty and risk when developing decision-oriented solutions for supply chain design, planning, and optimization. To consider the possible impact of operational risks and disruptive risks, the use of dynamic simulation methods and software is almost mandatory.

**This training course on Supply Chain Risk Management will highlight:**

- How to create analytical and management skills to explore bullwhip and ripple effects
- Need for specialized skills in batching, ordering rules, and events
- Accomplishing variation and comparison experimentations in AnyLogistix dynamic simulation software
- Major trade-offs in supply chain risk management
- Planning and avoidance of major Supply Chain disruptions by identifying risk and recovery

## Course Objectives of Supply Chain Risk Management

**At the end of this training course, delegates will learn to:**

- Identify the dynamic structure of Supply Chain
- Use AnyLogistix software
- Incorporate dynamic simulation modeling in risk identification
- Plan for uncertainty and reduce impact of disturbances in Supply Chain
- Recover fast from the unwanted events
- Incorporate geopolitics into Supply Chain optimization

## Course Methodology of Supply Chain Risk Management

This Purchasing & Logistics training course on Supply Chain Risk Management uses a hands-on approach. The participants will be equipped with a Personal Learning Edition of the anyLogistix software and will be walked through the models of using the software for Supply Chain risk management, optimization, and recovery planning. Participants will use Any Logic and anyLogistix software to organize dynamic simulation models from which they

will identify the possible causes of disruptions use modern strategies of risk assessments, and prepare measures to release reduce or repair negative influences.

The delegates will create simulation models based on the actual examples from the industry, either from the sources available from Any Logic or anyLogistix models or the available sources within their industry.

## Organizational Impact of Supply Chain Risk Management

Complexity management and system modelling is now a basis for handling uncertainty in supply chains. A particular feature of risk management in supply chains (unlike in technical systems) is that people do not strive for a 100% guarantee of the result: they consciously tend to take risks. Therefore, organizations need people that can provide the system with resiliency, flexibility in sourcing, supply chain visibility, adaptability and resilience, prepared to mitigate the emerging risks and recover from disturbances in the supply chain.

### From this the use of dynamic simulation tools for supply chain risk identification and influence measurement

- Dynamic control of the actual risks and mitigation measures for their supply chains
- Understand Redundancy, Robustness, Stability, Flexibility, Resilience
- Preparing a performance and recovery analysis framework
- How to identify ripple and bullwhip effects in virtual world through simulations

## Personal Impact of Supply Chain Risk Management

Participants will learn how to use the full strength of modern technologies and dynamic simulation tools to create an efficient, optimized, flexible, resilient, and effective supply chain; specifically, delegates will acquire:

- The structured knowledge of Supply Chain and Logistics dynamics and risk identification
- Knowledge of risks in the Supply Chains of the modern age, like IT, risks
- Simulation techniques, advantages, and limitations
- Step-by-step process of Supply Chain risk simulation and recovery measures prioritization
- The way to tackle the risks through simulated experiments
- Use of anyLogistix and Any Logic dynamic simulation software

## Target Audience of Supply Chain Risk Management

This Purchasing & Logistics training course on Supply Chain Risk Management has been designed for any professionals within Supply Chain and Logistics, production, business analytics, service provision, etc. Dynamic simulation techniques are applicable to multiple industries, and the range of applications is ever-expanding as the data becomes more and more accessible, and therefore professionals from many disciplines can attend this training course.

This training course is suitable for a wide range of professionals from the Supply Chain and Logistics industry but will greatly benefit:

- Risk Managers
- Supply Chain Managers
- Operation Managers
- Project Managers
- Finance Managers
- IT Managers
- Plant Managers
- Production Planners
- HR Managers
- Logistics Managers
- Business Improvement Specialists
- Consultants

## Course Outlines of Supply Chain Risk Management

### DAY 1

#### Structural Dynamics and Supply Chains

- Supply Chain Structure Dynamics Control Problem
- Dynamic Model of Supply Chain Structural Dynamics Control Processes
- Uncertainty and Risks
- Introduction to any Logic Dynamic Simulation Modelling Software
- Introduction to anyLogistix Supply Chain Modelling Software

### DAY 2

#### Risk Management in the Supply Chain

- A framework of Risk Control
- Operational Risks

- Disruption Risks
- Bullwhip Effect

## DAY 3

### Supply Chain Resilience

- Ripple Effect
  - Mitigation Strategies for Ripple Effect
- Supply Chain and Operations Disruption Management Framework
- Supply Chain Resilience Framework
- Exercise: Modeling Ripple Effect and its Mitigation with anyLogistix
- Models and Algorithms of Supply Chain Reconfiguration

## DAY 4

### Structural Dynamic Methods in Supply Chain Risk Management

- Linear and Mixed-Integer Programming Optimization
- Stochastic Programming Fuzzy Logic and Robust Optimization
- Pricing and Game Theory Application in Supply Chain Risk Management
- Simulation: Process, Agent and Dynamic

## DAY 5

### Supply Chain 4.0 and IT Risks for Supply Chain Management

- Industry 4.0 as a New Driver for Supply Chain Structural Dynamics
- IT Risks and Cyber Risks: Real Threats for All Supply Chains
- Managing IT and Cyber Risks in Supply Chains: A Practical Framework
- Adaptive Supply Chain Management Framework
- Flexible Supply Chain Structural Configuration