Dynamic Simulation of Supply Chain and Logistics

INTRODUCTION

- This Purchasing & Logistics training seminar on Dynamic Simulation of Supply Chain and Logistics will help identify potential risks and plan for mitigation measures before the risks actually arise, adequately plan lead times, warehousing and inventory resources, as well as optimal number of transportation resources.
- The analytical thinking alone is not enough to address the issues and challenges that are presented in modern supply chains. In order to be able to recognize the possible bottlenecks and opportunities, the Supply Chain and Logistics specialists need to have a tool that will enable them to model the supply chain and logistics activities and visualize the actual process in real time. They need to be able to perform experiments in a virtual world, which will enable them to execute their ideas, without the risk of disturbing the supply chain in the real world.

This training seminar on Dynamic Simulation of Supply Chain and Logistic will highlight:

- Use of Dynamic simulation in the processes of Supply Chain Design and Analysis
- Planning for the potential risk and disturbances within a supply chain
- Optimization of inventory and transportation policies and resources
- Bullwhip effect management and reduction
- Analysis of new product introduction and potential distribution networks
- Evaluation of alternative supply chain improvement options within a simulated environment
- Transport resources optimization and fleet planning

OBJECTIVES

- The objective of this Purchasing & Logistics training course on Dynamic Simulation of Supply Chain and Logistics is to teach the delegates how to use simulation tools and techniques for the Design, Analysis and Risk Management of Supply Chain and Logistics activities.

At the end of this training seminar, you will learn to:

- Perform a Greenfield Analysis of the Supply Chain
- Understand the risks of Supply Chain and Logistics and the ways to simulate them
- Perform simulations that will help you with your inventory optimization
- Acquire the knowledge to predict possible bullwhip and ripple effects
- Visually present the whole process flow of your Supply Chain and Logistics processes
- Use the tools for effective transportation planning
- Present the effects of the proposed changes through the changes in simulation outputs

TRAINING METHODOLOGY

- This Purchasing & Logistics training seminar on Dynamic Simulation of Supply Chain and Logistics uses a hands-on approach. The delegates will be provided with a Personal Learning Edition of the any Logistics software and will be walked through the examples of using the software for Supply Chain design, market planning, inventory optimization, warehouse practices improvement, risk management and customer satisfaction measurement.
- Delegates will go through the step-by-step process of creating the supply chain process, performing the risk assessments, acquiring and analyzing the results and preparing the recovery measures.
- The delegates will create simulation models based on the real life data, and will be encouraged to simulate the processes they are already working on. The focus is on the actual work of the delegates and their effective use of software.

ORGANISATIONAL IMPACT

- As the Supply Chain and Logistics are very dynamic environment constant changes in the process are expected and therefore need to be addressed before we make physical changes in the supply chain itself, by being able to simulate the effects of planned activities the companies will gain effective edge over their competition, as they will be able to test the solutions before they apply it and before the plans get crushed when colliding with the real world, as a result of sending their employees on this Purchasing & Logistics training seminar, organizations can expect to benefit from:
- The use of tools for the simulation of supply chain and logistics processes
- The knowledge of supply chain design and supply chain analytics
- Identify the actual risks and mitigation measures for their supply chains
- Understand patterns and possible bottlenecks as a result of planned changes
- Acquiring the knowledge of ripple and bullwhip effects identification trough simulations

PERSONAL IMPACT

- Delegates will learn how to perform the supply chain process design, identification of the distribution patterns and how are they implemented into the simulations, use of software for simulation of Supply Chain and Logistics processes, and airing personal learning edition of any Logistics supply chain simulation software; specifically, delegates will acquire:
- The structured knowledge of Supply Chain and Logistics dynamics
- Knowledge on risks associated with Supply Chain and Logistics activities
- Simulation techniques, advantages and limitations
- Step-by-step process of Supply Chain simulation
- Framework on how to analyze the results of experiments and simulations
- How to use simulation in their decision process?
- The benefits of simulated experiments

WHO SHOULD ATTEND?

- This Purchasing & Logistics training seminar on Dynamic Simulation of Supply Chain and Logistics has been designed for any professionals within Supply Chain and Logistics, production, business analytics, service provision etc. The simulation techniques are applicable for multiple industries, and therefore professionals from many disciplines can attend this training course.

This training course is suitable to a wide range of professionals but will greatly benefit:

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

Course Outline

Supply Chain and Logistics Processes Through Simulation

- Supply Chain and Logistics Process Planning
- Basis of Dynamic Simulation
- Supply Chain Analytics Problems
- Analytical Optimization in Supply Chains and Logistics
- Dynamic Simulation

Supply Chain Design Through Simulation

- Greenfield Analysis
- Multi-echelon Supply Chains
- Identifying Potential Distribution Locations for a New Supply Chain
- Introduction to Any Logistics Simulation Package
- Performing a Simple Facilities Location Analysis with the Use of the Software
- Integration of Supply Chain Software with IT Infrastructure
- Supply Chain and Logistics Projects with Dynamic Simulation Software

Supply Chain Analysis Using Dynamic Simulation

- Master Planning and Importing Data from Data Sources
- Capacity Estimation
- Service Level Analysis
- Presenting The Results
- Exporting Analysis Results to Excel and other Software

Inventory Optimization using Dynamic Simulation

- Inventory and Safety Stocks
- Inventory Optimization
- Examining Different Transportation Policies through Dynamic Simulation
- Fleet Utilization, Transportation Utilization, Transportation Cost and Lead Time
- Raw Materials Inventory Policies
- Choosing between FTL / LTL (Full Truck Load vs. Less Than Truckload) Policies

Supply Chain Risk Assessment

- Supply Chain Risks
- Estimating The Supply Chain Risks Effect on The Revenue
- Planning For Prevention, Contingency and Recovery Measures
- Bullwhip Effect
- Planning For a Possible Interruption in Production
- Impact of Customer Behavior on Supply Chain Metrics