Supply Chain Analytics: Big Data, KPI Dashboards and Scenario Decisions

1 – 5 February 2027
Barcelona - Eixample district four-star



Supply Chain Analytics: Big Data, KPI Dashboards and Scenario Decisions

Ref: 100_9453 **Date:** 1 – 5 February 2027 **Location:** Barcelona - Eixample district four-star **Fees:** 23500 SAR

Introduction:

Most supply chains now generate more data than they use: ERP orders, warehouse scans, carrier events, supplier confirmations and sensor feeds sit in separate systems, while managers still argue over whose service or stock figure is right. Supply chain analytics turns that scattered data into shared measures, diagnoses and scenario decisions. This Core Concept course equips managers and analysts to define a common data model, build decision-ready KPI dashboards, analyse inventory, supplier and freight performance and test what-if options. Participants leave with a Supply Chain Analytics Roadmap and KPI Dashboard Blueprint for their own operation.

Course Objectives:

- Map the organisation's supply chain data sources and define an integrated data model with agreed KPI definitions
- Design KPI dashboards for service, inventory and cost that show OTIF, fill rate, inventory turns, days of supply and cost-to-serve on one version of the numbers
- Diagnose inventory health using ABC/XYZ segmentation, safety stock coverage checks and excess and obsolete stock analysis
- Analyse supplier delivery, quality and lead-time variability and freight lane cost to identify where performance and money are lost
- Evaluate prescriptive and what-if scenarios and screen AI and machine learning use cases on value, data readiness and risk
- Produce a Supply Chain Analytics Roadmap and KPI Dashboard Blueprint sequenced by maturity stage and business value

Target Audience:

- Managers accountable for supply chain, logistics or operations performance reporting
- Analysts who build supply chain reports, dashboards and data extracts for decision makers
- Inventory and materials managers responsible for stock levels, working capital and service targets
- Procurement and supplier performance managers who review supplier delivery and quality data
- Transport and distribution managers who monitor freight spend and carrier service
- Business intelligence and digital transformation leads supporting supply chain functions

Course Outline:

Day 1: Supply Chain Data Landscape and Analytics Maturity

- Descriptive, Diagnostic, Predictive and Prescriptive Analytics in Supply Chain Decisions
- Supply Chain Data Source Inventory: ERP, WMS, TMS, Supplier Portals and IoT Telematics
- Big Data Characteristics in Supply Chains: Volume, Velocity, Variety and Veracity
- Gartner Five-Stage Supply Chain Analytics Maturity Self-Assessment
- Current-State Decision and Report Inventory with Data Pain-Point Log

Day 2: Data Models, KPI Trees and Dashboard Design

- Supply Chain Star Schema: Order, Shipment, Stock and Supplier Fact Tables
- Master Data Quality Rules for Item, Location, Customer and Supplier Records
- KPI Tree Linking OTIF, Fill Rate and Perfect Order to Financial Outcomes
- KPI Definition Cards: Formula, Grain, Owner, Target and Refresh Cycle
- Dashboard Layout Principles: Exception Views, Drill-Down Paths and Visual Encoding

Day 3: Inventory, Demand Signal and Supplier Performance Analytics

- ABC/XYZ Matrix for Stock Policy Differentiation
- Inventory Turns, Days of Supply and Excess and Obsolete Stock Ageing Analysis
- Safety Stock Coverage Diagnostics Against Actual Lead-Time and Demand Variability
- Demand Signal Quality Checks: Order Versus Shipment Gaps, Coefficient of Variation and Outliers
- Supplier Scorecard Analytics: On-Time Delivery, Defect Rate and Lead-Time Dispersion

Day 4: Cost-to-Serve, Network Trade-Offs, Scenarios and AI Use Cases

- Cost-to-Serve Waterfall by Customer, Channel and Order Profile
- Freight Lane Analytics and Network Trade-Off Curves for Service Versus Cost
- What-If Scenario Modelling with Sensitivity Tables and Tornado Charts
- AI and Machine Learning Use-Case Screening Matrix: Value, Data Readiness and Risk
- Analytics Governance: Data Ownership, Metric Change Control and Misleading Chart Traps

Day 5: Case Work and the Analytics Roadmap and Dashboard Blueprint

- Consumer Goods Distributor Case: Conflicting Service Figures Across Functions
- Hospital Supplies Case: Supplier Delay Patterns and Stock Cover Gaps
- KPI Dashboard Blueprint Drafting for an Own Operation
- Supply Chain Analytics Roadmap: Use-Case Backlog, Data Fixes and Capability Stages
- Steering Group Review Panel and Roadmap Defence

Skills You Will Gain:

- Supply Chain Data Modelling
- KPI Definition and Governance
- Dashboard Storyboarding
- Inventory Health Diagnostics
- Supplier Performance Measurement
- Cost-to-Serve Analysis
- Scenario and Sensitivity Analysis
- Analytics Use-Case Prioritisation

Why Attend This Course:

- Return to work with a Supply Chain Analytics Roadmap and KPI Dashboard Blueprint built around your own data sources and decisions
- End disputes over whose service or stock number is correct by agreeing one KPI definition set and data model
- Judge vendor and internal AI proposals on business value and data readiness before funding them
- Compare analytics practice and data problems with managers from manufacturing, retail, healthcare and distribution

Conclusion:

Analytics earns its place in a supply chain only when it changes decisions on service, stock and cost. This course moves from mapping data sources and assessing analytics maturity, through the data model, KPI tree and dashboard design, to inventory, demand signal, supplier and cost-to-serve analysis, and then to network trade-offs, what-if scenarios, AI use-case screening and governance. The final day applies these methods to multi-sector cases and produces a Supply Chain Analytics Roadmap and KPI Dashboard Blueprint ready for a steering group.