Supply Chain Analytics and Optimization Training Course

Professional Development Training Course Outline

Category	Logistics and Supply Chain Management	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

In today's hyper-competitive global market, mastering Supply Chain Analytics and Optimization is critical for any organization aiming to improve operational efficiency, reduce costs, and maximize customer satisfaction. Supply Chain Analytics and Optimization Training Course equips participants with the analytical skills and technological insights needed to analyze, forecast, and optimize end-to-end supply chain operations using real-time data, machine learning, and advanced software tools such as SAP, Python, and Tableau. With increasing volatility in demand and supply networks, professionals must integrate data-driven strategies with predictive analytics and optimization models to maintain agility and resilience.

This course empowers supply chain professionals, data analysts, and decision-makers with practical knowledge in demand forecasting, inventory optimization, transportation modeling, network design, and risk management. Each module integrates cutting-edge tools, real-world case studies, and simulation-based learning to provide actionable insights for strategic and tactical supply chain decisions. Whether in manufacturing, retail, logistics, or e-commerce, the course enhances decision-making across sourcing, planning, and distribution processes to drive supply chain visibility, profitability, and sustainability.

Programme Curriculum

Supply Chain Analytics and Optimization Training Course

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Course Objectives

1. Understand the role of Supply Chain Analytics in modern business operations.
2. Apply descriptive, predictive, and prescriptive analytics to supply chain problems.
3. Utilize Big Data tools and machine learning algorithms for demand forecasting.
4. Optimize inventory management using simulation and statistical models.
5. Analyze transportation networks for cost and service efficiency.
6. Implement supply chain risk management strategies using scenario analysis.
7. Use network design models to enhance supply chain responsiveness.
8. Apply data visualization tools like Tableau to communicate supply chain metrics.
9. Integrate ERP systems (e.g., SAP, Oracle) for seamless analytics implementation.
10. Assess the environmental impact using sustainable supply chain metrics.
11. Leverage AI and IoT for real-time supply chain monitoring and optimization.
12. Perform cost-to-serve analysis for improved profitability.
13. Build an end-to-end data-driven decision-making framework.

Target Audiences

1. Supply Chain Managers
2. Data Analysts and Data Scientists
3. Logistics and Operations Professionals
4. Procurement and Inventory Managers
5. IT and ERP Professionals
6. Business Intelligence Analysts
7. Manufacturing and Retail Professionals
8. MBA and Postgraduate Students in SCM or Analytics

Course Duration: 5 days

Course Modules

Module 1: Fundamentals of Supply Chain Analytics

- Introduction to supply chain systems and flows
- Types of analytics: descriptive, predictive, prescriptive
- Role of data in supply chain decision-making
- Key metrics and performance indicators (KPIs)
- Tools and platforms overview (Excel, Python, Tableau)
- **Case Study: Analytics adoption in a global electronics supply chain**

Module 2: Demand Forecasting and Planning

- Forecasting techniques: time-series, regression, ML
- Handling seasonality and variability
- Collaborative planning with suppliers and customers

- Integrating forecast with ERP systems
- KPI dashboards for forecast accuracy
- **Case Study: Forecasting demand in the apparel retail industry**

Module 3: Inventory Analytics and Optimization

- Inventory classifications and policies
- EOQ, safety stock, and reorder point calculations
- Multi-echelon inventory optimization
- Inventory turnover analysis
- Using Python for inventory simulation
- **Case Study: Reducing excess stock in a pharmaceutical supply chain**

Module 4: Transportation and Logistics Optimization

- Route optimization algorithms (TSP, VRP)
- Carrier selection and freight analysis
- Last-mile delivery modeling
- Cross-docking and consolidation strategies
- Cost-to-serve analysis
- **Case Study: Optimizing delivery routes for an e-commerce firm**

Module 5: Network Design and Facility Location

- Facility location modeling techniques
- Supply chain network structure and design
- Trade-offs between cost, time, and flexibility
- Scenario planning and capacity analysis
- Linear and mixed-integer programming for design
- **Case Study: Designing a distribution network for a food company**

Module 6: Risk Analytics in the Supply Chain

- Identifying and quantifying supply chain risks
- Probabilistic and stochastic modeling
- Resilience and contingency planning
- Supplier risk evaluation tools
- Stress testing and scenario simulations
- **Case Study: Managing supply chain disruptions during COVID-19**

Module 7: Advanced Tools: Machine Learning, AI & IoT

- Machine learning for demand sensing and prediction
- IoT sensors for real-time visibility
- AI applications in procurement and warehouse automation
- Integrating ML models with ERP systems
- Ethical considerations and data privacy
- **Case Study: Using AI for warehouse operations in automotive supply chains**

Module 8: Visualization, Reporting & Strategic Alignment

- Building supply chain dashboards in Tableau/Power BI
- Storytelling with data: from insights to action
- Aligning analytics with strategic objectives
- ROI evaluation of analytics projects
- Cross-functional communication and change management

- **Case Study: Strategic alignment of analytics in a healthcare supply chain**

Training Methodology

- Instructor-led live sessions (virtual or in-person)
- Hands-on labs using Python, Excel, and Tableau
- Interactive case discussions and group exercises
- Access to real-world datasets and simulation tools
- Capstone project on end-to-end supply chain optimization

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

Ready to enroll or request a customized program? Book online or contact us:

Register Online Now

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