

Scandinavian Academy
Training Center

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Riyadh - Al Khaleej District - Sheikh Abdul Aziz Bin Abdul Rahman Bin Bishr Street - 13223 - Office No. 5 | P.O.BOX : 13224

Course: Big Data Analytics for Supply Chain Optimization

Code	City	hotel	Start	End	price	Language - Hours
SC-918SA	Taif	Hotel Meeting Room	2027-10-24	2027-10-28	9950 SR	En - 25

Introduction

In the age of Industry 4.0, supply chains are becoming increasingly complex, data-driven, and interconnected. This Big Data Analytics for Supply Chain Optimization course is designed to provide professionals with the critical knowledge and hands-on skills needed to navigate and lead in this evolving landscape.

Through a blend of strategic concepts and practical applications, this highly interactive program equips participants with the tools to analyze large datasets, uncover valuable insights, and apply optimization techniques to every component of the supply chain—from procurement and production to logistics and distribution. The course emphasizes predictive analytics, simulation modeling, and integration with modern ERP systems, preparing participants for real-time decision-making and long-term innovation.

By the end of this training, professionals will be able to harness the power of big data to reduce costs, increase efficiency, and improve responsiveness, laying the foundation for a smarter, faster, and more agile supply chain system.

General Objective

To empower participants with the skills and knowledge necessary to apply advanced big data analytics techniques for optimizing supply chain operations, enhancing decision-making, reducing inefficiencies, and aligning with the technological advancements of Industry 4.0.

Course Objectives

- Utilize big data analysis tools and techniques to identify trends in supply chain behavior.
- Build virtual models of supply chains to assess alternatives and maximize profitability.
- Identify and optimize the use of big data sources within supply chain and logistics.
- Analyze customer behavior patterns and anticipate future demand shifts.
- Strategically plan improvements using available resources and infrastructure.
- Prepare for the transition to Supply Chain 4.0 within the Industry 4.0 framework.

Targeted Competencies

- Identification and use of big data sources.
- Interoperability across supply chains and systems.
- Real-time forecasting and predictive analytics.
- AI-driven decision-making and automation.
- Long-term strategic planning with short-term execution through technology.
- Integrated simulation and modeling techniques.

Targeted Groups

- Business improvement specialists
- Industry 4.0 professionals and practitioners
- Supply chain managers
- Operations managers
- Project managers
- Finance managers
- IT managers
- Consultants involved in digital transformation

Course Content

Unit 1: Industry 4.0 and Its Impact on the Supply Chain

- Introduction to Industry 4.0
- Key drivers and impacts of Industry 4.0
- The evolving role of supply chains and logistics
- Vision and architecture of Supply Chain 4.0
- Future trends in global logistics

Unit 2: Big Data in Supply Chain and Logistics

- The 5 V’s of Big Data: Volume, Velocity, Variety, Value, and Veracity
- Understanding data variability and quality
- Key sources of big data in supply chains
- Introduction to data-driven supply chain optimization
- Applications of algorithms: K-means, Apriori, Aykin, and Babu

Unit 3: Supply Chain Optimization

- Customer-centric supply chain frameworks
- Sales and operations planning (S&OP) optimization
- Distribution and logistics optimization techniques
- Inventory management through big data
- Aligning demand and supply using predictive insights

Unit 4: Optimization of Manufacturing Processes

- Leveraging big data in product design and innovation
- Enhancing production efficiency through advanced analytics
- Logistics optimization powered by big data insights
- Predictive models for maintenance and production flow
- Case studies of manufacturing improvement via analytics

Unit 5: Integration with ERP and Modern Technologies

- Overview of AnyLogic Cloud and ERP integration
- Connecting ERP systems with IoT and RFID
- Real-time vehicle tracking and data collection systems
- Accelerating data extrapolation and computation
- Ensuring system interoperability for streamlined operations

Unit 6: AI and Predictive Analytics in Supply Chain Transformation

- Role of AI in modern supply chain operations
- Machine learning in demand forecasting and risk management
- Real-time decision-making with AI and big data fusion
- Predictive maintenance and exception handling
- Case studies of AI-driven supply chain innovation
- Roadmap for integrating AI into supply chain strategy

The Scandinavian Academy for Training Center adopts the latest scientific and professional methodologies in training and human resource development, aiming to enhance the efficiency of individuals and organizations. Training programs are delivered through a comprehensive approach that includes:

- Theoretical lectures supported by PowerPoint presentations and visual materials (videos and short films).
- Scientific evaluation of participants before and after the program to measure progress and knowledge acquisition.
- Brainstorming sessions and practical role-playing to simulate real-life scenarios.
- Case studies tailored to align with the training content and participants work nature.
- Assessment tests conducted at the end of the program to evaluate the achievement of training objectives.

Each participant receives the training material (both theoretical and practical) in printed form and saved on a CD or flash drive. Detailed reports, including attendance records, final results, and overall program evaluations, are also provided.

Training materials are prepared professionally by a team of experts and specialists in various fields. At the end of the program, participants are awarded a professional attendance certificate, signed and accredited by the Scandinavian Academy for Training Center.

Program Timings: 9:00 AM to 2:00 PM

The program includes:

- A daily buffet provided during the sessions to ensure participants comfort.
- A closing ceremony on the final day to distribute certificates and celebrate participants achievements.
- **Note: All prices are exclusive of 15% Value Added Tax (VAT).**

Our Success Partners

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