



**CERTIFICATE IN SUPPLY CHAIN
DATA ANALYTICS**

CURRICULUM OUTLINE

CSCD – BRASI's comprehensive training program in Supply Chain Data Analytics covers essential topics across four modules. Participants will gain insights into data analytics fundamentals, key performance indicators, and the importance of data-driven decision-making.

The course includes descriptive, predictive, and prescriptive analytics, focusing on forecasting, optimization techniques, and data visualization tools. Additionally, we address advanced analytics techniques, integration with supply chain systems, ethics, and future trends, ensuring learners are well-equipped with practical skills and knowledge for effective supply chain management.

Certificate Award: The CSCD certificate is uploaded to the students' account upon passing the final test. Each certificate carries a unique ID and is valid for life.

COURSE CONTENT

CSCD MODULE 1

SUPPLY CHAIN DATA INSIGHTS

The first module covers the fundamentals of data analytics, including different types of data, data collection methods, and essential data cleaning techniques. Next, we'll delve into the crucial role of Key Performance Indicators (KPIs) in supply chain management.

INTENDED LEARNING OBJECTIVES

1. Understand the Role of Data Analytics in Supply Chain Management.
2. Recognize the Benefits of Data Analytics in Supply Chains.
3. Identify Different Types of Data in Supply Chain Analytics.
4. Understand the Importance of Data Quality in Supply Chain Analytics.
5. Apply Techniques for Data Cleansing in Supply Chain Analytics.
6. Introduce Key Performance Indicators (KPIs).
7. Explore the Role of Predictive Analytics in KPI Management.
8. Use KPIs for Decision-Making in Supply Chains.
9. Integrate Data Analytics into Supply Chain Operations.
10. Evaluate the Future of Supply Chain Data Analytics.

TOPICS

- Introduction to Supply Chain Data Analytics.
- Overview of data analytics in supply chain management.
- Importance and benefits of data-driven decision-making.
- Fundamentals of Data Analytics
- Types of data: Structured vs. unstructured
- Data collection methods and sources
- Data cleaning and preparation techniques
- Key Performance Indicators (KPIs) in Supply Chain
- Identifying relevant KPIs
- Measuring and interpreting KPIs
- Benchmarking and performance evaluation

CSCD MODULE 2

ANALYZING AND FORECASTING IN SUPPLY CHAINS

Module 2 explores descriptive analytics, analyzing historical data, identify trends, and visualize insights through dashboards and reports. Moving on to predictive analytics, learning how to forecast demand and supply using statistical models and machine learning algorithms. Also discusses risk assessment and scenario analysis to prepare for potential challenges.

INTENDED LEARNING OBJECTIVES

1. Understand the Fundamentals of Descriptive Analytics.
2. Analyze Historical Data Using Various Tools.
3. Recognize the Benefits of Descriptive Analytics in Supply Chain.
4. Introduction to Predictive Analytics.
5. Utilize Tools for Predictive Analytics.
6. Understand the Benefits of Predictive Analytics in Supply Chain.
7. Introduction to Prescriptive Analytics.
8. Apply Optimization Techniques for Supply Chain Decisions.
9. Understand the Role of Decision Support Systems (DSS).

TOPICS

- Introduction to Descriptive Analytics
- Analyzing Historical Data
- Tools for Analyzing Historical Data
- Benefits of Descriptive Analytics in Supply Chain
- Introduction to Predictive Analytics
- Tools for Predictive Analytics
- Benefits of Predictive Analytics in Supply Chain
- Introduction to Prescriptive Analytics
- Optimization Techniques for Supply Chain Decisions
- Decision Support Systems (DSS)

CSCD MODULE 3

VISUALIZING AND INTEGRATING SUPPLY CHAIN DATA

Module 3 starts by introducing powerful data visualization software such as Tableau and Power BI. Students learn how to create effective charts, graphs, and maps to communicate complex data insights clearly and concisely. The module also explores the art of designing interactive dashboards to provide real-time insights and facilitate decision-making.

Next, delves into advanced analytics techniques, including data mining and advanced statistical methods. Students learn how to extract valuable insights from large datasets and uncover hidden patterns. Moving on to discuss the impact of big data on supply chain analytics and explore how to leverage AI and machine learning to automate tasks and improve predictions.

Finally, explores the importance of integrating data analytics with the existing supply chain systems, such as ERP and WMS; explores the challenges of data integration and interoperability, learning how to process and analyze data in real-time to make timely decisions.

INTENDED LEARNING OBJECTIVES

1. Understand the Basics of Data Visualization Software.
2. Recognize the Importance of Data Visualization in Supply Chain.
3. Identify the Types of Dashboards Used in Supply Chain Analytics
4. Introduction to Advanced Analytics in Supply Chain.
5. Apply Statistical Techniques in Supply Chain Analytics
6. Examine the Applications of Big Data in Supply Chain.
7. Understand the Benefits of AI and Big Data in Supply Chain Analytics.
8. Recognize the Importance of System Integration in Supply Chain Operations.
9. Connect ERP Systems with Supply Chain Analytics.
10. Explore Warehouse Management Systems (WMS).
11. Learn Methods for Data Integration in Supply Chain.
12. Explore Future Trends in Supply Chain System Integration

TOPICS

- Introduction to Data Visualization Software
- Importance of Data Visualization in Supply Chain
- Types of Dashboards: Operational, Tactical, Strategic
- Introduction to Advanced Analytics in Supply Chain
- Statistical Techniques in Supply Chain Analytics
- Applications of Big Data in Supply Chain
- Benefits of AI and Big Data in Supply Chain Analytics
- Importance of System Integration in Supply Chain
- Connecting ERP Systems with Supply Chain Analytics
- Warehouse Management Systems (WMS)
- Methods for Data Integration
- Future Trends in Supply Chain System Integration.

CSCD MODULE 4

CASE STUDIES AND FUTURE INNOVATIONS

Module 4 starts by exploring case studies of successful supply chain analytics implementations, explaining best practices, lessons learned, and how data analytics has transformed businesses. Includes hands-on projects and exercises to give the learner practical experience in applying the techniques learned.

Next, it delves into the important topic of ethics and data privacy in supply chain analytics, exploring how to ensure data security and compliance with regulations, address ethical concerns related to data usage, and implement best practices for data protection.

Finally, a look at the future of supply chain analytics, discussing emerging technologies and innovations, such as IoT, blockchain, and advanced analytics, exploring their potential impact on supply chain management.

By the end of this module, the learner is well-equipped to leverage data analytics to drive innovation, improve efficiency, and achieve supply chain excellence.

INTENDED LEARNING OBJECTIVES

1. Understand the Importance of Case Studies in Supply Chain Analytics.
2. Identify Key Metrics in Retail Case Studies
3. Analyze Real-World Supply Chain Case Studies.
4. Introduction to Ethics and Data Privacy in Supply Chain Analytics.
5. Learn Best Practices for Data Protection
6. Balance Data Privacy and Business Needs.
7. Understand Challenges in Data Security Implementation.
8. Explore Data Privacy Risks in Global Supply Chains.
9. Introduction to Future Trends in Supply Chain Analytics.
10. Understand the Role of IoT in Supply Chain Analytics.
11. Understand the Impact of Blockchain in Supply Chain Management.
12. Explore Future Innovations in Supply Chain Analytics.

TOPICS

- Importance of Case Studies in Supply Chain Analytics
- Key Metrics in Retail Case Study
- Case studies
- Introduction to Ethics and Data Privacy
- Best Practices for Data Protection
- Balancing Data Privacy and Business Needs
- Challenges in Data Security Implementation
- Data Privacy Risks in Global Supply Chains
- Introduction to Future Trends in Supply Chain Analytics
- The Role of IoT in Supply Chain Analytics
- Blockchain in Supply Chain Management
- Future Innovations in Supply Chain Analytics

Course Evaluation

Final Quiz

Certificate Award