

Purchasing, Construction, and Supply Chain





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#### Introduction:

The modern business landscape relies heavily on efficient purchasing, construction, and supply chain management to meet customer demands and remain competitive. This comprehensive course, "Purchasing, Construction, and Supply Chain," is designed to equip professionals with the knowledge and skills required to excel in these critical areas. Participants will gain a deep understanding of procurement strategies, construction project management, and supply chain optimization to drive business success.

## Course Objectives:

By the end of this course, participants will:

- Understand the key concepts and principles of purchasing, construction, and supply chain management.
- Develop proficiency in strategic procurement, negotiation, and vendor management.
- Learn effective construction project planning, scheduling, and cost control techniques.
- Gain insight into supply chain design, logistics, and inventory management.
- Enhance decision-making skills related to procurement, construction, and supply chain operations.
- Apply sustainable and ethical practices in purchasing, construction, and supply chain processes.
- Identify and mitigate risks within the procurement, construction, and supply chain domains.
- Optimize supply chain operations for improved efficiency and cost reduction.
- Explore digital tools and technologies for streamlining purchasing and supply chain processes.
- Successfully integrate procurement, construction, and supply chain strategies to drive overall business growth.

## **Target Audience:**

This course is suitable for professionals in various industries, including but not limited to:

- Procurement and Supply Chain Managers
- Construction Project Managers
- Operations Managers
- Logistics and Transportation Professionals
- Purchasing Specialists
- · Inventory and Warehouse Managers
- Business Owners and Entrepreneurs
- Anyone interested in enhancing their knowledge of purchasing, construction, and supply chain management.

## Unit 1: Introduction to Purchasing, Construction, and Supply Chain

- Overview of the course objectives and content.
- The role of purchasing, construction, and supply chain in modern business.
- Historical context and evolution of these domains.
- Real-world case studies highlighting the impact of effective management in these areas.

# Unit 2: Procurement Strategies and Vendor Management



- · Strategic Sourcing:
  - In-depth analysis of strategic sourcing methodologies.
  - o Development of procurement strategies aligned with organizational goals.
- · Negotiation Techniques:
  - · Advanced negotiation tactics, including win-win strategies and principled negotiation.
  - Building strong vendor relationships and partnerships.
- Vendor Performance Evaluation:
  - Metrics and key performance indicators KPIs for assessing vendor performance.
  - Continuous improvement strategies for suppliers.

## Unit 3: Construction Project Management

- Project Initiation:
  - · Feasibility studies and project charter development.
  - Stakeholder identification and analysis.
- Project Planning and Execution:
  - Comprehensive project planning, including scope definition, work breakdown structure WBS, and resource allocation.
  - Effective project scheduling, risk identification, and mitigation planning.
- Budgeting and Cost Control:
  - Advanced cost estimation and budget development.
  - Strategies for monitoring and controlling project costs.
  - Earned value analysis and cost forecasting techniques.

# Unit 4: Supply Chain Design and Optimization

- Supply Chain Strategy Development:
  - Designing supply chain strategies tailored to business needs.
  - Balancing cost, responsiveness, and flexibility in supply chain design.
- · Logistics and Distribution Network Design:
  - · Analyzing factors affecting the design of distribution networks.
  - The role of distribution centers, warehouses, and transportation in supply chain operations.
- Inventory Management and Optimization:
  - · Advanced inventory control models, including Just-In-Time JIT and ABC analysis.
  - Strategies for reducing excess inventory while maintaining customer service levels.

## Unit 5: Decision-Making in Purchasing, Construction, and Supply Chain

- Data-Driven Decision-Making and Analytics:
  - · Leveraging data analytics tools to make informed decisions.
  - Predictive analytics for demand forecasting and supply chain optimization.
- · Risk Assessment and Mitigation Strategies:
  - · Advanced risk assessment methodologies.
  - · Developing comprehensive risk management plans.
  - Scenario planning and decision tree analysis for risk mitigation.

#### Unit 6: Sustainable and Ethical Practices

- Sustainable Procurement and Construction Practices:
  - Sustainable sourcing, eco-friendly materials, and green building practices.
  - Strategies for reducing the environmental impact of supply chain operations.



- Ethical Considerations in Supply Chain Management:
  - Addressing ethical issues in supplier relationships.
  - Ethical procurement practices and codes of conduct.

## Unit 7: Risk Management in Procurement, Construction, and Supply Chain

- Identifying and Assessing Risks:
  - Comprehensive risk identification techniques, including SWOT analysis and failure mode and effects analysis FMEA.
  - Quantitative and qualitative risk assessment methods.
- Developing Risk Mitigation and Contingency Plans:
  - Creating risk mitigation and contingency plans tailored to different risk categories.
  - Role-play scenarios for risk response planning and execution.

## Unit 8: Supply Chain Efficiency and Cost Reduction

- Lean and Six Sigma Principles in Supply Chain Management:
  - Lean principles for waste reduction and process optimization.
  - Six Sigma methodologies for quality improvement and defect reduction.
- Cost Reduction Strategies and Continuous Improvement:
  - Advanced continuous improvement techniques, including Kaizen and Total Quality Management TQM.
  - Benchmarking and best practices for cost reduction.

## Unit 9: Digital Tools and Technologies

- Introduction to Digital Transformation:
  - Understanding the concepts and benefits of digital transformation in procurement and supply chain.
  - · Case studies on successful digital transformation initiatives.
- IoT, Blockchain, and Al Applications:
  - Exploring the applications of the Internet of Things IoT in supply chain monitoring and tracking.
  - Blockchain's role in supply chain transparency and traceability.
  - Al and machine learning for demand forecasting, predictive maintenance, and optimization.

# Unit 10: Integration of Procurement, Construction, and Supply Chain

- Aligning Strategies with Organizational Goals:
  - Strategies for ensuring procurement, construction, and supply chain strategies align with overall business objectives.
  - · Creating a unified vision for these critical functions.
- · Achieving Synergy:
  - Methods for integrating and optimizing procurement, construction, and supply chain operations.
  - The role of cross-functional teams and collaboration in achieving synergy.