



Certified in Planning and Inventory Management

Supply Chain, MPC, and
SCOR DS Road Maps



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Supply Chain, MPC, and SCOR DS Road Maps

1. Supply Chain Strategy and Competitive Alignment

Supply chain strategy defines how an organization structures and manages its supply chain to support its business goals. It aligns competitive priorities—cost, quality, flexibility, and responsiveness—with supply chain design and execution. The strategy influences facility location, sourcing decisions, inventory policies, and customer service objectives. For CPIM, it's critical to understand how strategic alignment ensures supply chain decisions enhance profitability, customer satisfaction, and competitive advantage across end-to-end operations.

2. Supply Chain Network Design

Network design determines where production, storage, and distribution facilities are located and how materials flow between them. Key elements include facility location, capacity, lead time, and transportation modes. Optimal design balances service level with cost efficiency. A well-designed network minimizes total logistics costs while maintaining responsiveness. CPIM candidates should know how network design supports strategic goals and adapts to changing demand, supply, and risk conditions.

3. Manufacturing Planning and Control (MPC) Framework

The MPC framework is the backbone of production and supply chain planning. It links strategic, tactical, and operational levels of decision-making. The structure typically includes business planning, S&OP, master

scheduling, MRP, and production activity control. MPC integrates demand, materials, and capacity planning to ensure smooth operations. For CPIM, mastering how each level interacts and supports organizational objectives is essential for understanding planning hierarchy and control flow.

4. Sales and Operations Planning (S&OP)

S&OP is a cross-functional process that balances demand and supply at an aggregate level. It aligns marketing, operations, and finance to create a single, feasible plan for the business. The process reviews demand forecasts, capacity constraints, and financial objectives, resulting in a consensus plan. CPIM candidates must grasp how S&OP supports business strategy, drives MPS, and ensures organizational alignment by translating high-level strategy into executable plans.

5. Master Production Scheduling (MPS)

The MPS breaks down the S&OP plan into detailed schedules for individual end items. It specifies what to make, when, and in what quantity. The MPS serves as the driver for MRP, balancing customer demand with production and capacity constraints. Key concepts include time fences, ATP (Available to Promise), and cumulative lead times. For CPIM, MPS mastery ensures understanding of how to manage production priorities and stabilize operations.

6. Material Requirements Planning (MRP)

MRP calculates the components and materials needed to fulfill the MPS. Using bills of materials (BOMs), inventory data, and lead times, MRP schedules order releases to ensure materials are available when required. Its key objectives are minimizing stockouts and inventory investment. CPIM emphasizes understanding dependent demand logic, lot sizing, time-phased planning, and exception message management to keep materials synchronized with production plans.

7. Capacity Planning and Control

Capacity planning ensures production capability matches demand requirements. It includes Rough-Cut Capacity Planning (RCCP) for MPS validation and Capacity Requirements Planning (CRP) for detailed work-center analysis. Effective capacity management balances workload, prevents bottlenecks, and maintains schedule feasibility. For CPIM, it's important to know how capacity decisions link strategic resource planning to shop-floor execution.

8. Demand Management and Forecasting

Demand management coordinates forecasting, order entry, and customer demand shaping. Forecasting methods—qualitative and quantitative—predict future demand using historical data and market intelligence. Accurate forecasting reduces uncertainty and inventory waste. CPIM candidates must understand the impact of demand variability, forecast accuracy metrics (e.g., MAPE, bias), and how forecasts integrate into the MPC system to drive balanced plans.

9. Inventory Planning and Control

Inventory management ensures the right quantity of materials is available at the right time and cost. It involves safety stock, reorder points, lot sizing, and inventory classifications (ABC). The goal is to balance service levels with carrying costs. In CPIM, understanding inventory trade-offs—cost vs. availability—and the role of inventory across the supply chain is crucial for effective planning and control.

10. Supply Chain Performance Metrics

Performance metrics measure how well the supply chain meets its objectives. Key categories include cost, quality, service, and asset utilization. Metrics such as order fill rate, inventory turnover, and cash-to-cash cycle time reveal operational health. The SCOR model organizes metrics into five performance attributes: Reliability, Responsiveness, Agility, Cost, and Asset Efficiency. CPIM candidates should understand how metrics link operational actions to strategic outcomes.

11. SCOR Model Overview

The **Supply Chain Operations Reference (SCOR)** model provides a structured framework to describe, measure, and improve supply chain processes. It includes six core process categories: Plan, Source, Make, Deliver, Return, and Enable. SCOR defines standardized terminology, metrics, and best practices, facilitating benchmarking and process improvement. For CPIM, understanding how SCOR connects process performance to business results is essential for holistic supply chain analysis.

12. SCOR Digital Standard (SCOR DS)

The SCOR Digital Standard updates the traditional SCOR model to reflect the impact of digital technologies such as AI, IoT, and predictive analytics. It provides a roadmap for digital transformation, emphasizing data-driven planning, visibility, and process automation. SCOR DS integrates maturity models and digital capability assessment. CPIM candidates should understand how SCOR DS guides organizations in adopting smart, connected, and resilient supply chains.

13. Process Mapping and Value Stream Analysis

Process mapping visually represents the flow of materials and information within the supply chain. It identifies inefficiencies, redundancies, and improvement opportunities. Value Stream Mapping (VSM), a lean tool, highlights value-added and non-value-added activities. In the CPIM context, process mapping underpins SCOR-based analysis, helping organizations transition from current-state inefficiencies to future-state optimization.

14. Supply Chain Road Mapping

A supply chain roadmap outlines the structured approach for transformation—defining current capabilities, future objectives, and steps to achieve them. It aligns initiatives with business strategy and SCOR performance targets. Road maps prioritize actions based on impact and feasibility. For CPIM, understanding how road maps guide improvement projects ensures that planning and implementation remain aligned with long-term strategic goals.

15. Lean and Agile Supply Chain Strategies

Lean focuses on waste elimination and efficiency, while agile emphasizes flexibility and responsiveness. Many organizations combine both into a “leagile” strategy. Lean tools (e.g., JIT, Kanban) streamline processes, and agile practices (e.g., postponement) enhance adaptability. CPIM candidates must understand how to design MPC systems that align with lean and agile principles based on product demand and market volatility.

16. Risk and Resilience Management

Risk management identifies, assesses, and mitigates potential disruptions such as supplier failures or demand shocks. Building resilience involves diversification, safety stock, and flexible capacity. SCOR DS embeds resilience within its planning and digital capability frameworks. For CPIM, mastering risk and resilience principles is vital to ensure continuity and adaptability across supply chain operations.

17. Collaboration and Integration

Supply chain collaboration involves joint planning and data sharing among partners. Collaborative Planning, Forecasting, and Replenishment (CPFR) synchronizes demand and supply information. Integration—both functional and technological—ensures transparency and alignment across the value chain. For CPIM, understanding how collaboration improves forecast accuracy, reduces lead time, and enhances customer satisfaction is key to managing modern supply chains.

18. Information Systems and Digital Enablers

ERP, APS, and supply chain visibility systems provide data integration across the MPC hierarchy. Advanced tools like AI, machine learning, and IoT enhance planning precision and real-time responsiveness. SCOR DS highlights digital maturity and data-driven decision-making. CPIM candidates must understand how digital systems support S&OP, MRP, and performance analytics to enable end-to-end synchronization.

19. Continuous Improvement and Benchmarking

Continuous improvement involves systematic evaluation and enhancement of processes. SCOR supports this through benchmarking and performance gap analysis. Techniques such as Kaizen, PDCA (Plan-Do-Check-Act), and Six Sigma reduce variation and waste. For CPIM, understanding how feedback loops drive sustainable improvement helps ensure processes remain efficient and aligned with strategy.

20. Sustainability and Circular Supply Chains

Sustainability integrates environmental and social responsibility into supply chain design. Practices like waste reduction, recycling, and ethical sourcing contribute to long-term viability. SCOR DS incorporates sustainability metrics (e.g., carbon footprint, circularity). For CPIM, knowledge of how sustainability influences sourcing, production, and logistics is vital as global supply chains move toward greener operations.

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10. Agile and Responsive Supply Chains
11. Sales and Operations Planning (S&OP)
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17. Supply Chain Collaboration and Integration
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19. Global Supply Chain Strategy
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39. E-Commerce Supply Chain Models
40. Omni-Channel Fulfillment Strategies
41. Warehouse Automation and Robotics
42. SCOR DS Roadmap for Supply Chain Excellence
43. Customer-Centric Supply Chain Strategies
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12. Total Cost of Ownership (TCO) Analysis
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15. Procurement in Public vs. Private Sectors
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17. Procurement Data Analytics and Reporting
18. Procurement Scorecards and KPIs
19. Strategic Supplier Partnerships
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Micro-Learning Programs in Procurement ...



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29. Procurement Ethics and Transparency
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31. Vendor Consolidation Strategies
32. Spend Analysis and Optimization
33. Demand Forecasting for Procurement
34. E-Auction and Reverse Bidding Techniques
35. Inventory and Procurement Alignment
36. Procurement in Project-Based Organizations
37. Supplier Onboarding and Development
38. Procurement Market Intelligence
39. Measuring Supplier Innovation
40. Procurement in Times of Supply Disruption
41. Cross-Functional Collaboration in Procurement
42. Writing Effective RFPs, RFQs, and RFIs
43. Contract Negotiation Best Practices
44. Green Procurement and Circular Economy
45. Legal Aspects of Procurement Contracts
46. Performance-Based Contracting
47. Procurement Leadership and Strategic Influence
48. Cost Avoidance and Value Creation in Procurement
49. Managing Procurement with Power BI Dashboards
50. Future Skills and Trends in Procurement



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