CISCOM

CERTIFIED IN SUPPLY CHAIN & OPERATIONS MANAGEMENT

BRASI SINCE 1981

CURRICULUM OUTLINE

CISCOM course covers the supply chain and operatoins management body of knowledge (SCOMBOK) from beginning to end. The curriculum provides an overview of each topic, and further detailed review is based on the student's or the sponsoring organizaiton's specific needs and interests.

The CISCOM course comprises four modules. Each module has a handbook, exercise files where needed based on the topic, a quiz, and videos or previous sessions. A cumulative quiz upon completion of the course review helps students prepare for the final test. The final test is conducted online and is proctored. Training materials can be accessed through the Learning Management System on BRASI's website. These resources are available to students at all times, throughout the duration of their course.

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

CISCOM MODULE
PLANNING

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This module covers the supply chain planning processes and algorithms used in the materials planning process (MRP), scheduling, sales forecasting, and more. Supply chain models and core concepts are included. Intended Learning Objectives.

INTENDED LEARNING OBJECTIVES

1. Understand the objectives and scope of supply chain and operations management.
2. Define the 4 C's of Supply Chain Management: Customer Service, Cash Flow, Cost and Capacity.
3. Recognize the impact of the 3Vs (Visibility, Variability, and the Velocity) on supply chain.
4. Identify the main drivers and obstacles in supply chain management.
5. Recognize the supply chain hierarchy, along with the associated time horizons and planning processes, and the relationship of competitive strategy with supply chain
6. Strategy.
7. Understand the relationship between competitive strategy and supply chain strategy.
8. Understand the three Flows in supply chain management.
9. Understand the two Views, and the concept of Delayed Differentiation or Postponement.
10. Understand the key considerations in supply planning.
11. Perform calculation for Forecast of Sales with Moving Averages and Exponential Smoothing methods, perform calculations for Forecast Accuracy, i.e., Mean Absolute Deviation, Standard Deviation and Bias.
12. Understand the various planning processes within Supply Chain Management, including Sales & Operations Planning, Master Scheduling, Materials Requirement Planning and Capacity Requirements Planning.
13. Perform Materials Requirement Planning (MRP) Calculation using TPOP – Time Phased Order Point planning grid.
14. Perform Capacity Requirement Planning (CRP) Calculation, including the Resource Load Profile chart.
15. Understand the significance and underlying cost factors of Economic Order Quantity or Lot Size for Manufacturing and Purchasing, and the use of EOQ Model in evaluating volume-based price discounts.
16. Perform Economic Order Quantity (EOQ) calculation.
17. Understand the need and context of Safety Stock.
18. Calculate Safety Stock, using Standard Deviation and Service Level Target.

COURSE CONTENT

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SECTION 1.1

INTRODUCTION TO SUPPLY CHAIN MANAGEMENT1.1:

TOPICS

- Definitions - Supply Chain and Operations Management.
- Evolution, Scope and Objectives of SCM.
- Supply Chain Conceptual Models: SCOR, GSCF, BRASI.
- Elements of the Supply Chain Environment.
- The 3 Vs of Supply Chain
- Objectives of a supply chain.
- Managing multiple supply chains.
- Risk Management in supply chains.
- Supply Chain Functional Areas.
- Key considerations in supply planning.
- The 3 Flows and 2 Views of supply chain.
- Supply Chain Drivers and Obstacles.
- Supply Chain Drivers and Obstacles.

SECTION 1.2

STRATEGY AND ALIGNMENT

TOPICS

- SC Channels.
- Multiple tiers - vendors and customers: SC Visibility and Risk.
- Centralized and Decentralized Structures and their characteristics.
- Matrix Organization.
- Gravity Model for Plant Location.

SECTION 1.3

FORECASTING AND DEMAND MANAGEMENT

TOPICS

- Types of demand: Dependent and Independent
- Sources of demand: Internal and external
- Internal and External influencers of demand
- The need to forecast independent demand Sales forecasting Methods
- Forecast variance and its impact
- Communication of forecast the Bull Whip Effect

SECTION 1.4

OPERATIONS PLANNING

TOPICS

- Hierarchy of Operations Planning
- Planning Horizons and Time Buckets
- Operations Planning Processes
- Budget and Annual Operating Plan
- Sales & Operations Planning
- Materials Requirement Planning
- Capacity Requirements Planning
- Lead Time
- Supply Coordination
- Measuring the Plan Performance

SECTION 1.5

ENTERPRISE RESOURCE PLANNING SYSTEMS

TOPICS

- Computerized ERP Systems Benefits and Limitations
- Supply Chain Components of an ERP system
- Selection of ERP software
- Demand Planning tools
- Reporting tools

CISCOM MODULE 2

ORAGANIZING

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This module deals with the supply chain channels, structures, centralization and decentralization, functions within the supply chain organization, Gravity Location Model, scenarios and simulations, and related topics.

INTENDED LEARNING OBJECTIVES

1. Differentiate between physical infrastructure and non-physical framework
2. Define the role and characteristics of vendor, customer and consumer
3. Understand the relationship between manufacturing and brand marketing
4. Define the role of channel master, channel partner and channel member
5. Identify the sources of Complexity in supply chain
6. Understand the effects and solutions to complexity
7. Define the drivers of integration
8. Understand the four types of integration
9. Identify the link of SWOT Analysis to integration
10. Understand the infrastructure choices
11. Identify supply chain functions and roles
12. Identify the pros and cons of centralization and decentralization
13. Perform calculation for plant location using the Gravity Model
14. Understand the matrix organization, including the roles of Product Franchise, Plant and Business Unit.
15. Define the application of best practices and benchmarking
16. Understand the role of training and motivation in staff retention
17. Understand the influence of trade bodies and trade agreements on global supply chains
18. Understand the need for off-line simulation in supply chain planning decisions.
19. Understand the basics of computer-based simulation and optimization.
20. Perform supply chain simulations on the software provided.

SECTION 2.1

SUPPLY CHAIN STRUCTURE & CHANNELS

TOPICS

- SC Structure and Infrastructure.
- SC Channels
- Multiple tiers - vendors and customers: SC Visibility and Risk
- Centralized and Decentralized Structures and their characteristics
- Matrix Organization
- Gravity Model for Plant Location

SECTION 2.2

SUPPLY CHAIN COMPLEXITY

TOPICS

- Simple and Complex Supply Chains.
- Complexity and Complication.
- Sources of Complexity.
- Effects of Complexity.
- The need for reducing complexity.
- Strategies for reducing complexity.

SECTION 2.3

DIVERSIFICATION AND NTEGRATION

TOPICS

- Diversification – drivers and considerations
- Integration – drivers and considerations
- Types of integration
- Mapping the integration synergies -SWOT Analysis

SECTION 2.4

SUPPLY CHAIN FUNCTION

TOPICS

- SC's Core Responsibility
- Supply Chain Functions and Roles
- Managing the S&OP Process
- Procurement and Contract Management
- Manufacturing Planning and Scheduling
- Warehousing, Distribution and Transportation
- Customer Relationship Management
- Supply Chain Performance Monitoring and Reporting

SECTION 2.5

INTERNATIONAL TRADE

TOPICS

- Drivers of global trade
- Key considerations in international trade
- Types of collaboration
- Trade Bodies and Trade Agreements
- Special Manufacturing Zone or Export Processing Zones
- World Trade - BRICS and other emerging economies

SECTION 2.6

SCENARIOS, SIMULATION AND OPTIMIZATION

TOPICS

- The need for scenario planning
- Scenario structure for decision-making: BC, WC and ML
- Making decisions under uncertainty
- Trade Bodies and Trade Agreements
- The need for offline simulation
- Running What-if scenarios on a Simulation Software

CISCOM MODULE 3
DELIVERING

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This module covers the operations part, including production, inventory management, warehousing, distribution, costing, and related topics. This is where the value is added by the change in form, function, and location.

INTENDED LEARNING OBJECTIVES

1. Understand the goals and functions of Customer Relationship Management
2. Define the use of technology in Customer Relationship Management and data sources
3. Understand the role, training and empowerment of CRM staff
4. Perform calculation for On-Time Shipping metric
5. Understand the success factors in CRM
6. Identify the scope and role of Supplier Relationship Management (SRM)
7. Identify the uses of spend analysis
8. Identify different types of manufacturing layouts, Continuous Flow Manufacturing and Discrete Batch Manufacturing
9. Identify the relationship of Push/Pull to capacity and inventory
10. Perform calculations for product cost, Cost Of Goods Manufactured, Cost Of Goods Sold and Contribution Margin, and Breakeven Volume
11. Understand the four methods of Inventory Valuation: FIFO, LIFO, Average and Standard cost methods
12. Understand the purpose of ABC Classification of Inventory
13. Identify Performance measures for manufacturing operations
14. Understand the INCOTERMS used in international trade and transportation.
15. Understand the use of Safety Stock and Min/Max in distribution logistics
16. Perform calculation for pipeline inventory using Little's Law
17. Understand the use of technology in logistics

SECTION 3.1
CUSTOMER RELATIONSHIP MANAGEMENT

TOPICS

- CRM – the interface with customers
- Goals of CRM
- The CRM Process
- CRM Functions
- CRM Technology and Automation
- CRM Data Sources
- Outsourced Services
- Training and Empowerment
- CRM Success Factors

SECTION 3.2
SUPPLIER RELATIONSHIP MANAGEMENT

TOPICS

- Objectives of the SRM process
- Scope of SRM
- Selection of ERP software
- The buying process – purchase requisition, purchase order, blanket order and call-offs, information on a purchase order
- Commodity Buying
- Vendor-owned and Vendor-managed inventory (VOI & VOMI)
- Spend Analysis

SECTION 3.3
MANUFACTURING EXECUTION

TOPICS

- Manufacturing Functions and operations
- Value added in manufacturing
- Manufacturing layouts
- Components of lead time in manufacturing
- Capacity optimization
- Input-Output Control or Production Control
- Backlog and backorder
- Performance Metrics for Manufacturing Operations

SECTION 3.4
LOGISTICS WAREHOUSING, TRANSPORTATION AND DISTRIBUTION

TOPICS

- Warehousing: Types, Layouts, Functions and Costs.
- Warehouse Staffing - Flex or Wave Scheduling
- Transportation: Modes, Infrastructures, Applications and Line-haul
- Distribution Modes, Hub and Spoke Model
- Distribution Inventory
- Perishable products and cold chain management.

SECTION 3.5
INVENTORY MANAGEMENT

TOPICS

- Role of Inventory
- Replenishment Policies
- Inventory Profiles
- Pipeline inventory – the Little's Law
- Work-In-Process
- Inventory Turns
- Inventory Accuracy Cycle Counting
- How much to make or buy - Economic Order Quantity
- Buffering supply/demand variability – Safety Stock
- Inventory Build and Stockpile

SECTION 3.6
SUPPLY CHAIN FINANCE

TOPICS

- Financial statements linkage to operations
- Time value of money
- Asset depreciation and costs
- Inventory valuation methods
- Unit Costs: Fixed, Variable, Direct, Indirect.
- Overhead absorption, Contribution Margin, Breakeven volume
- Standard Cost and Variance
- Work In Process costs and Push/Pull Boundary
- Period Costs: COGM, COGS
- Financial ratios

SECTION 3.7
TECHNOLOGICAL ADVANCEMENTS IN SUPPLY CHAIN MANAGEMENT

TOPICS

- Computerization of logistics
- Artificial Intelligence in ERP
- Technology and Competitive Strategy
- Areas of technology application
- Technological tool
- Balancing the 4Cs in Supply Chain Management

CISCOM MODULE 4
GROWING

The fourth and final module offers an opportunity to review the best practices in supply chain management, comparative growth, and introduces the standard tools for improving productivity and i.e. Lean, Six Sigma, Total Quality Management, and Theory of Constraints. Fundamentals of project management are included as it is an important skill for supply chain professionals.

INTENDED LEARNING OBJECTIVES

1. Study the application of Markov analysis
2. Define the importance of sustainable growth
3. Understand the role, training and empowerment of CRM staff
4. Identify the concepts of bench marking and best practices
5. Understand the basic concepts of Just In Time (JIT)
6. Understand concepts and applications in Six Sigma
7. Understand concepts and applications in Lean
8. Understand concepts and applications in Theory of Constraints
9. Identify the role of leadership in change and transformation
10. Understand the cumulative effect of supply chain decisions on business performance through the review of a case study

SECTION 4.1
DYNAMICS OF GROWTH

TOPICS

- Absolute and Relative Growth
- Markov Analysis
- Profitable Growth

SECTION 4.2
SUSTAINABILITY

TOPICS

- Focus on Improvement
- Sustainable Growth Rate (SGR)
- Sustainability and infrastructure choices
- Budget – a road map for development
- SCM link to Financial Statements
- Accrual and Cash Flow

SECTION 4.3
PRODUCTIVITY TOOLS

TOPICS

- Productivity Basics
- Bench Marking Best Practices
- Competitive Strategy
  Obstacles to achieving higher productivity
- Pareto Analysis.
- TQM
- Lean
- Just In Time
- Six Sigma
- Statistical Process Control
- Constraints Management
- Theory Of Constraints

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SECTION 4.4
CHANGE AND TRANSFORMATION

TOPICS

- Caught up in the Inertia
- Need for Change
- Resistance to Change
- Change Enablers
- Change by impact or by repetition
- Leadership and Transformation
- Phases in Learning or Change
- Phases in Team Development
- Team Development
- Pioneers in Scientific Management

SECTION 4.5
ROLE OF PROJECT MANAGEMENT IN SUPPLY CHAIN TRANSFORMATION

TOPICS

- Process Management and Project Management
- Supply Chain Transformation: Product Innovation, Facilities Expansion and Renovation, Talent Acquisition and Development
- The Project Charter Deliverables and Milestones
- Work Breakdown Structure
- Project Schedule – the Gantt Chart
- Critical Path Analysis
- The Triple Constraint of Project Management and Scope Creep
- Project Managemnet Software
- Project Success Metrics

SECTION 4.6
ROLE CASE STUDY REVIEW

TOPICS

- Understanding the current business scenario
- Establishing the linkages
- Planning for changes
- Calculating the parameters
- Determining the financial impact
- Presenting the solution
- Implementation and monitoring

SECTION 4.7
SUPPLY CHAIN OUTLOOK

TOPICS

- Trends in supply chain management
- Collaboration and communication
- Supply chain – a competitive advantage

Course Evaluation, Exam Preparation, Exam and Certificate Award