



SAPICS Principles of Production & Inventory Management (PPIM)

Overview

The SAPICS Principles of Production & Inventory Management (PPIM) programme covers the tools and techniques employed at each stage in the end-to-end supply chain. Beyond this detail it provides a big picture understanding of the chain, and it empowers people to make confident and sound decisions.

Target Audience

- Demand and supply planners, store supervisors and warehouse supervisors.

MODULE CONTENT

Module 1: Resource Management

- Long, medium and short range planning
- Volume/Variety mix
- Manufacturing strategies
- Product positioning strategies
- Process positioning strategies
- Alternate plant layouts

Module 2: Product Development and Process Design

- The product development life cycle
- Computers in product development
- Process design
- Choice of production method
- Factors of production
- Ergonomics and work study

Module 3: Forecasting

- Data collection and accuracy
- Forecasting techniques
- Quantitative forecasting methods
- Time-series forecasting models
- Seasonality
- Forecast error
- Measures of forecast error
- Establishing forecast accuracy
- Safety stock and forecasting uncertainty
- Customer service and forecasting

Module 4: Master Planning of Resources

- Developing the production plan
- Developing a make-to-stock production plan
- Developing a make-to-order production plan
- Independent and dependent demand
- Master scheduling
- Time fences and the planning horizon
- The Master Production Schedule
- Rough-cut capacity planning (RCCP)
- Bottom-up replanning
- Performance measurements
- The master scheduler

Module 5: Materials Planning

- Objectives of materials planning
- Inputs of materials planning
- The material requirements planning record
- The MRP record format
- The elements of the MRP report
- Planned order releases and receipts expanded
- Multilevel bill of material explosion
- Materials planning outputs
- Uses of the bills of material
- Performance measurement
- Performance measurement for MRPII
- Scrap and yield in materials planning

Module 6: Capacity Planning

- The capacity planning process
- Key terminology
- Measures of capacity
- Inputs to capacity planning
- The capacity planning progressing logic
- Calculation of load
- Finite/infinite capacity planning
- Outputs from capacity planning
- Adjusting load and capacity
- Input/output control
- Performance measures
- Scrap and rework

Module 7: Project Management

- Programmes and projects
- Elements of project management
- A 14-step approach
- Definite project management
- Project life cycle
- Project role players

- Responsible matrix
- Stakeholders management
- The nine knowledge areas
- Developing a project network
- Determining the critical path

Module 8: Executing Push Systems

- Loading the factory
- Controlling movement through the factory
- Authorising push activities
- Push documentation
- Executing push activities
- Overcoming the hurdles

- Executing push activities
- Overcoming the hurdles
- Using priority rules
- Bottleneck management
- Input/output analysis

Module 9: Executing Pull Systems

- Push vs pull production
- Pull systems characteristics
- Drum buffer rope
- Types of kanbans
- Establishing a Kanban ceiling
- Kanban rules
- Kanban systems

- Two-card Kanban system
- One-card Kanban system
- Line balancing
- Operation splitting and overlapping
- Pull activities
- Synchronous manufacturing
- Agile manufacturing

Module 10: Lean and Waste Elimination

- Value added and non-value added
- Key principles of lean thinking
- Seven principles of lean
- Deming's 15 characteristics of lean
- Henry Ford and lean

- The 7 wastes
- Muda
- Examples of 8 wastes
- The 3 new wastes
- Seven service wastes

Module 11: Product Development and Process Design

- Objectives of purchasing
- Marketing research in procurement
- Supplier selection process
- The purchasing specification
- Value engineering and value analysis
- The purchasing cycle
- Keeping track of inventory
- BEE in procurement

- The generic scorecard
- BEE status levels
- Obtaining a BEE certificate of compliance
- Stock pricing and valuation
- Stock valuation methods
- Applying stock pricing and valuation
- Purchasing and its functional relationships

Module 12: Inventory Fundamentals

- What is inventory
- The need to hold inventory
- Reasons against holding inventory
- Types and functions of inventory
- Inventory sub categories
- Other inventory classes
- Inventory cost
- Inventory and customer service

- Customer services measures
- Alternative key measures
- Safety stock inventory
- ABC classification of inventory
- Control of inventory
- Cycle counting
- Accuracy targets
- Inventory performance measures

Module 13: Inventory Methodologies and Techniques

- Determining when to order
- “How often” to order
- Establishing inventory costs
- Order review methodologies
- Order quantity constrains and modifiers
- Lot sizing techniques
- Applying a range of lot sizing techniques
- Quantity discounts
- Practical considerations in quantity discounts
- Graphical representations of quantity discounts

Module 14: Total Quality Management

- Defining quality
- Quality and customer needs
- Quality of design and conformance
- The quality gurus
- Four absolutes of quality
- Total quality management
- Elements of total quality management
- Inspection
- Statistical process control
- Control charts
- Acceptance sampling
- Acceptance sampling plans
- The cost of quality
- Cost of good quality
- Cost of poor quality

Module 15: Warehousing and Materials Handling

- Determining space requirements
- Warehouse productivity
- Ergonomics
- Storage methods
- Storage equipment
- Order picking systems
- Materials handling
- Dimensions of material handling
- PQRST of materials handling
- Function-orientated systems
- Material transport equipment conveyors
- Cranes and hoists
- Industrial trucks
- Dock bumpers and dock levellers

Module 16: Distribution Management

- Distribution networks
- Distribution system objectives
- Inventory control
- Activities of physical distribution
- Third and fourth party logistics
- Cross-docking operations
- Distribution centre management
- Distribution requirements planning (DRP)
- What is distribution requirements planning?
- Centralised vs Decentralised DRP
- Ordering models
- Basic DRP calculation
- Linking several DRP records
- Managing day-to-day revisions

Module 17: Facilities Location and Transportation

- Location factors
- Channel types and structures
- Alternative channels
- Demand structure
- Factors affecting location decision
- Regional/community selection
- Facility location models
- Site selection
- Considerations
- Transportation
- Designing of transport system
- Freight management
- Operating costs
- Modes of transport
- Other carriers
- Transport cost elements
- Utilisation
- Containerisation
- Types of containers

DELIVERY METHODOLOGY & DURATION

Live On-line Classes

There will be 19 x 3-hour Thursday evening online sessions over 5 months.

Portal Activity

The student portal includes student resources, activities, suggested reading, final exam, quizzes and answers.

Written Exam

Candidates will be certificated by SAPICS on successful completion of two exams, one after module 9 and one after module 17.

Contacts

For course dates, official quotations and enrolment forms please contact any of our three training centres:

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