



# Demand Planning & Sales Forecasting

2-day Tutorial Workshop

Feb 16-17, 2017 | Chennai, India

## CADP Certification

Feb 18, 2017 | Chennai, India



**Improve Your Forecasts With Better Models and Diagnostics!  
We Will Show You How To:**

- Set up a Demand Planning Process for your Business
  - Use Statistical Modeling to Create Baseline Forecasts
    - Incorporate Promotional Events Into Your Forecast Modeling
      - Use Forecast Error as a Diagnostic to Improve Model Quality

To register for this tutorial, visit [DemandPlanning.net](http://DemandPlanning.net)  
Contact us today at (020)-65346020 / (+91) 8983569638, or via  
Email at [training\(at\)demandplanning.net](mailto:training(at)demandplanning.net)

# Workshop Agenda

## DAY ONE

**8:30am** *Registration*

**9:00am** *Welcome & Introduction*

**9:30am** *Demand Planning Overview*

- Why Forecast and Plan?
- The Service – Cost – Balance Model
- Introduction to Demand Planning- What, Why and How?
- Distinction between Business Forecasting and Demand Planning
- Beyond Statistical Forecasting
- Key Components of a Demand Plan
- Key Terminology – Forecast Horizon, Buckets & Periodicity
- Forecast Pass
- Constrained vs. Unconstrained forecasts
- Demand Management

**10:30 am** *Coffee break*

**10:45 am** *Data Cleaning and Adjustments for Demand Forecasting*

- What do we know about data?
- The Forecast Problem and Data collection
- Definition of Demand
- Data cleaning challenges
  - Shipment Vs. Orders
  - Gross Demand Vs. Net Demand
- Adjusting for historical shifts in demand
- Data filtering
- Outliers
- Process to Identify Outliers
- What is a tolerance band
- Methodology for outlier correction

**1:00pm** *Lunch Break*

**2:00pm** *Statistical Modeling*

- Forecast Model
- Key components of demand
- Additive Vs. Multiplicative Seasonality in Models
- Modeling by decomposition
- Introduction to Forecast Modeling
- Balancing between Model Fit Vs. Model Robustness
- Uni-Variate Time Series vs. Multi-Variate methods
- Moving Average
- First Order Exponential Smoothing or Constant Models
- Holt Models to accommodate trend
- Holt Winters Model
- Exponential Trend and Dampening

**3:30pm** *Coffee Break & Networking Exercise*

**4:30pm** *Product Life Cycle & Long-term Planning*

- Cyclicity
- Product Lifecycle and trend
- Launch Forecasting
- Volume effect on line extension

**5:00pm** *Assignment of forecasting exercises to Participants*

## DAY TWO

**9:00 am** *Data Analysis and SKU Segmentation*

- Simple Model of Demand
- Demand Volatility
- What is the approach to Data Analysis?
- Impact of Data Volatility on Forecasting
- Measuring Volatility
- Impact of multiple Extreme Observations on Volatility
- SKU Segmentation for forecast modeling
- Volume Volatility a 2x2 grid
- Modeling by exception

**10:45 am** *Forecast Errors and Model Diagnostic*

- Definition of Demand Forecast Errors
- Forecast Accuracy
- Forecast Bias vs. Forecast Error
- Error and Volatility Reduction
- Errors across SKUs vs. Errors across time
- Model Diagnostics - Measuring Errors over time
  - MAD
  - MAPE vs. MPE
  - WAPE
  - Root Mean Squared Error
  - General Illustration MPE, MAPE and RMSE

**11:30am** *Morning Break*

**11:45am** *Event Modeling*

- Event Modeling
- Baseline vs. Incremental
- Event Models Identify Volume Spikes
- Illustration of Event Models

**1:00pm** *Lunch Break*

**2:00pm** *Discussion and answers assigned exercise*

**3:30pm** *PM Planning for Intermittent Demand*

- What is Intermittent Demand?
- Illustration of Intermittent Demand Data
- What causes intermittency?
- Strategies to handle intermittent demand
  - Business Perspective
  - Stat Models
- Statistical Models for Intermittent Demand
  - Application of Croston's Model
  - Discrete Distribution

**4:30pm** *Measuring forecast performance*

- Forecast Performance Metric
- Forecast errors and actionability
- Sources of Forecast Error
- Definition of Demand Planning Metrics - WAPE & Bias
- Types of Bias
- SKU Mix Error
- Error Analysis for Continuous Improvement
- Forecast Accuracy Reporting

# CADP (Certified Analyst in Demand Planning)

## DAY THREE

**9:00am – 10:00am** *Joint Session -Discuss Exam format & helpful hints*

**10:00 – 11:00am** *Review*

- Review of Online Session
- Open Q&A Session

**11:00 – 12:00pm** *Review*

- Review of Practical Problem Solving
- Open Q&A Session

**12:00 – 1:30pm** *Lunch Break & Relax (No discussion with instructors)*

**1:30 – 5:30pm** *Exam*

- Part 1 - Multiple Choice Concepts (2 hrs)
- Part 2 - Practical Problem Solving with Calculations (2 hrs)

# Demand Planning & Sales Forecasting

**Demand Planning** is the art and science of accurately forecasting the demand for your supply chain. An accurate demand plan helps you reduce inventory costs and increase customer service levels. When properly implemented and used in the Value Chain Process, the demand plan helps create a lean and customer centric supply chain.

In this workshop, you will learn how to develop a baseline statistical forecast and leverage a collaborative process to add customer intelligence. The result is a more accurate plan that includes promotional activity, customer intelligence, and display activity.

This two-day intensive workshop will take you through an overview of demand planning process, organization, and structure within the supply chain and comprehensively cover statistical modeling to create accurate forecasts. We will also talk about model diagnostics to improve the quality of the forecast models with specific references to popular applications such as SAP APO, Forecastpro, Oracle, Demantra, etc.

## Insightful information on...

- Demand Planning Overview
- Mechanics of Forecast Modeling
- Forecast Performance Metrics
- Model Diagnostics
- Measure and use Forecast Accuracy
- Promotional Planning
- Consensus Demand Planning
- Event Modeling

## Who Should Attend?

- Demand Planners
- Forecast Analysts
- Forecasting Managers
- Directors of Forecasting & Demand Planning
- Directors of Value Chain
- Analysts in the Supply Chain
- Inventory Planners
- Operations Planners
- Financial Analysts
- Directors of Logistics
- Directors of Customer Service



**Dr. Mark Chockalingam**  
President and Founder of Demand Planning LLC

Dr. Mark Chockalingam is Managing Principal, Demand Planning, LLC. Mark specializes in demand forecasting, Sales and Operations Planning, Customer Planning and supply chain strategy. Mark has helped consulting clients in CPG, Pharmaceuticals, Chemicals and Retail to implement best practices to sharpen complex supply chains and help them be more customer focused. He has worked on highprofile projects with companies such as Abbott, FMC, Procter and Gamble, Au Bon Pain, Teva Pharmaceuticals, Miller SAB, Jack Daniels, Honeywell, PepsiCo etc.

Mark has a Ph. D. in Finance from Arizona State University, an MBA from the University of Toledo and is a member of the Institute of Chartered Accountants of India.

Price INR 36,000 for 2-Day DP

Price -INR 63,000 when registering for 2-Day DP + 1-Day  
Refresher course plus CADP

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\*The price does not include service tax

# About Demand Planning, LLC

Demand Planning, LLC is a consulting boutique comprised of seasoned experts with real-world supply chain experience and subject-matter expertise in demand forecasting, S&OP, customer planning, and supply chain strategy.

We provide process and strategy consulting services to customers across a variety of industries: pharmaceuticals, CPG, high-tech, foods and beverage, quick service restaurants and utilities.

Through our knowledge portal Demand Planning.Net, we offer a full menu of training programs through in-person and online courses in Demand Forecast Modeling, S&OP, industry forecasting, collaborative forecasting using POS data.

Demand Planning.Net, also offers a variety of informational articles and downloadable calculation templates, and a unique Demand Planning discussion forum.

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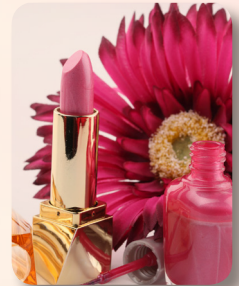
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