

Presents

# Demand Planning & Forecasting Tutorial

Courtyard by Marriott, Hanover-Whippany, NJ  
October 22-23

*Improve your forecasts with better Models and Diagnostics!*

Presented by Dr. Mark Chockalingam

Guest speakers:

Jay Nearnberg, Senior Director of Demand Planning, Wyeth Consumer Health  
and Mark Temkin, Director of Estimating, Avon Products

## We will show you how to...

- ☑ Set up a Demand Planning Process for your business
- ☑ Clean your data and adjust for data anomalies
- ☑ Use Statistical modeling to create baseline forecasts
- ☑ Use exponential smoothing and linear regression models
- ☑ Leverage the Regression capabilities in Excel
- ☑ Incorporate promotional events into your forecast modeling
- ☑ Use Forecast Error as a diagnostic to improve model quality
- ☑ Reconcile the top-down category forecast and the bottom-up SKU level Demand Plan.

Register today at [www.DemandPlanning.net](http://www.DemandPlanning.net) or call us at (781) 995 0685 !

# Demand Planning & Forecasting Outline

**Demand Planning** is the 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 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
- ☑ Sales and Operations Planning Process

## Who Should Attend?

1. Demand Planners
2. Forecast Analysts
3. Forecasting Managers
4. Director of Forecasting and Demand Planning
5. Director of Value Chain
6. Analysts in the Supply Chain
7. Inventory Planners
8. Operations Planners
9. Financial Analysts
10. Director of Logistics
11. Director of Customer Service

## About The Presenter

### Mark Chockalingam, Ph.D

Mark Chockalingam is Managing Principal, Demand Planning LLC, a Business Process and Strategy Consultancy based in Woburn, MA. Mark has spent most of his career in business forecasting and supply chain analytics. He has specialized in the CPG and the healthcare space and implemented best practices to help supply chains be more customer focused.

His client experience includes projects with companies such as Miller SAB, Eastman Kodak, Colgate Palmolive, Procter and Gamble, Abbott Labs, Wyeth, Teva Pharmaceuticals, etc. Before starting his consulting career, he has held corporate positions of increasing responsibility with Fedex, Schering-Plough and the Gillette company, now a unit of Procter and Gamble.

# Demand Planning & Forecasting Agenda

## Day 1

7:30am – 8:30am **Breakfast and Registration**

8:30am – 9am **Welcome**

9am - 10:30am **Demand Planning Overview**

- » Definition of Demand
- » Introduction to Demand Planning- What, Why and How?
- » The Service – Cost – Balance Model
- » Distinction between Business Forecasting and Demand Planning
- » What to forecast – shipments vs. orders
- » Key Terminology – Forecast Horizon, Buckets & Periodicity
- » Constrained vs. Unconstrained forecasts
- » Demand Management
- » Organization Structure and Culture
- » Role of the Demand Forecaster
- » Consensus and communication

10:30am – 10:45am **Morning Break**

10:45am - 12:30pm **Data Analysis for Demand Forecasting**

- » Data Requirements for Demand Planning
- » Graphical review of the Data
- » Central Tendency and measures of Dispersion
- » Outliers and Missing Data
- » Structural Changes and Data Shifts
- » What is a Forecast Model?
- » Introduction to Demand Components
- » Ex-Ante versus Ex-Post Forecasting
- » Hold out Sample Methodology
- » Optimal Model Selection

12:30pm – 1:30pm **Lunch Break**

1:30pm – 2:30pm **Demand Planning for Over the Counter HealthCare Products**

Guest Speaker: Jay Nearnberg, Senior Director of Demand Planning, Wyeth Consumer Health

2:30pm-3pm **Coffee Break & Networking Exercise**

3pm - 4:30pm **Modeling & Graphical Decomposition**

- » Decomposition of the Demand Profile
- » Understanding the components - Trend, Seasonality, Cyclicity
- » Predictable and unpredictable volatility
- » Stationarity and Stability
- » Diagnostics review to improve model quality
- » Modeling by Exception

4:30pm **Assignment of Forecasting exercises to participants**

## Day 2

7:30am – 8:30am **Breakfast**

8:30am- 10:30am **Modeling**

- » Introduction to Forecast Modeling
- » Qualities of a good Statistical Forecast
- » Balancing between Model Fit vs. Model Robustness
- » Time Series versus Multi-Variate Methods
- » First Order Exponential Smoothing or Constant Models
- » Holt Models to accommodate Trend
- » Holt Winters Models
- » How to set up a simple forecast model in Excel
- » Exponential Trend and Dampening
- » Additive vs. Multiplicative Seasonality in Models

10:30am – 10:45am **Morning Break**

10:45am- 11:30am **Modeling (cont'd)**

- » Baseline vs. event forecasting
- » Introduction to Box-Jenkins Models
- » Multiple Linear Regression Models
- » Time and Seasonal Index in an Excel based model

11:30am - 12:30pm **Forecast Errors & Model Diagnostics**

- » Definition of Demand Forecast Errors
- » Errors over time vs. Errors Across Products
- » Calculation Methodology for Model Diagnostics
- » Mechanics behind MAD, MPE, MAPE and RMSE
- » How to identify a biased Forecast?

12:30pm - 1:30pm **Lunch Break**

1:30pm - 2:30pm **Forecasting for fast moving fashion products**

Guest Speaker: Mark Temkin, Director of Estimating, Avon Products

2:30pm-3pm **Coffee Break**

3pm - 4:15pm **Measuring Forecast Performance**

- » Importance of measuring forecast performance
- » Management Reporting and Continuous Improvement
- » Measurement Methodology
- » Mean Absolute Deviation (MAD)
- » Mean Percentage Error (MPE)
- » Mean Absolute Percentage Error (MAPE or PMAD)
- » Weighted Mean Percentage Error (WMAPE)
- » Forecast Bias and Sku Mix Error (SME)
- » Relationship between Bias and Error

4:15pm **Discussion and answers to assigned exercises**

Pricing: \$995 - Early bird pricing: \$895 for registrations by Sep 12, 2009. 10% discount for groups of 3 or more.

To register for this tutorial, visit [www.DemandPlanning.net](http://www.DemandPlanning.net).  
Contact us today at (781)-995-0685, or via Email at [info@DemandPlanning.net](mailto:info@DemandPlanning.net)

# Demand Planning & Forecasting

## 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.

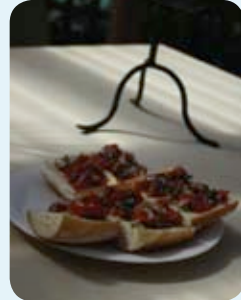
Through our knowledge portal Demand Planning.Net, we offer a full menu of training programs through in-person and online courses in Demand Forecast Modeling, S&OP, Industry Forecasting, collaborative Forecasting using POS data.

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

### A Sample of Workshop Clients



New Balance  
Clorox  
SAB Miller  
Texas Instruments  
Hewlett Packard  
Nomacorc  
FMC Lithium  
Campbell Soup  
McCain Foods  
NSTAR Electric  
Pacific Cycles  
Smead  
Lifetime Products  
F. Schumaker  
Wyeth  
Skyworks Solutions



## Contact Us

Demand Planning LLC  
10G Roessler Rd. Suite 508  
Woburn, MA 01801  
Phone: (781) 995 0685  
Fax: (651) 305 5163

Email: [info@demandplanning.net](mailto:info@demandplanning.net)  
Web: <http://www.demandplanning.net>

