



One Day Add-on Workshop

Modeling & Metrics in SAP APO

Boston, MA

Friday, September 21, 2018

8:00am - 4:45pm

Presented By Mark Chockalingam Ph.D.

Demand
Planning
.Net

Statistical Modeling in APO DP – Forecast Profiles –
Data Analysis and Graphical Review of Models

Holt Winter Models – Moving Average Models –
Exponential Smoothing – Automatic Models –
Croston's Models for Intermittent Demand

Forecast Error Metrics – Model Diagnostics –
MAPE – RMSE

Forecast Management Through Exception – Univariate
forecast alerts – Forecast Comparison Report.

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

SAP APO is a powerful tool that can help you create better demand forecasts and finished goods plans, when properly implemented together with appropriate training for the planning professionals. APO DP facilitates creating a Statistical Model using a menu of statistical algorithms and automatic model selection procedures.

The main focus of the workshop is Statistical modeling and forecasting in SAP APO. The workshop will also cover data analysis and graphical review in APO. Please bring your laptops with access to your APO DP environment so you can test a couple of models on the fly.

In this workshop, you will also learn the mechanics behind the forecast error metrics available in the System. Most of these error metrics are familiar to demand planners however, APO DP defines them with its own unique formula that is different from conventional calculations. So it is critical for planners to know how they are being calculated and how to use them to diagnose forecast quality.

Though APO DP engine creates six different error metrics, you only need to look at a couple of them to accurately assess the quality of the forecast. We illustrate with examples the calculations of MAPE, RMSE and MPE and the pros and cons of using each. We then explain the concept of Tracking Signal that is being used by the exponential smoothing models in APO. We also show you how to leverage the error measures to define and use Univariate Forecast Alerts. The final tool to compare among alternative forecast models is to use the Forecast Comparison Report.

On completion of the course, you will have better insights into the modeling methodology and also learn how to take advantage of the exception management practices built into APO DP. Learn how to leverage

Forecasting Exception Alerts

Forecast Model Comparisons

This workshop will help you answer the following questions

- How do I leverage the power of the statistical models in APO DP?
- Are there products and customers that are better left to APO's automated modeling strategy?
- How do I adjust for outliers and data shifts?
- Are there different modeling profiles I can leverage for a group of items?
- Is the MAPE calculated in APO DP really a MAPE?
- How do I assess the quality of my forecast?
- What is the difference between the various forecast error metrics in the software?
- Why are these measures different from the classic MAPE calculations?
- How do I know if my forecast is biased?
- How do I set up forecast alerts in APO DP?
- How does outlier correction methodology affect the computation of errors and model quality?

Agenda

DAY THREE

8:15am – 9:00am Introduction to Stat Modeling & Forecast Profiles

- Demand Planning and Forecasting
- Family of Models
- Model Settings in APO DP
- Illustration of Forecast Profiles in APO DP
- Power of Profiles
- APO DP Master Profile
- Uni-Variate Profile

9:00 – 10:30am APO DP Terminology & Graphical Review

- APO DP Terminology
- Data Shifts
- Historical Horizon Settings
- Forecast Horizon Settings
- Data Analysis and Graphical Review in APO
- Ex-post Forecasting in APO DP
- APO Modeling Phases
- Modeling Mechanics
- Model Initialization

10:30 – 10:45am *Coffee Break*

10:45am – 12:30pm APO Modeling in Practice

- Modeling Overview
- Internal workings of APO DP
- Forecast Profile Selection Process
- Modeling Strategies by Forecasting Need
- Modeling In Practice
- APO DP Constant Models
- Simple Moving Average Models
- Smoothing Models
- First Order Exponential Smoothing Models
- Auto Model 1 - Forecast Strategy 50
- Auto Model 2 - Forecast Strategy 56
- Croston's Model

12:30 – 1:30pm *Lunch Break*

1:30 – 3:00pm Model Diagnostics in APO DP

- Definition of Demand Forecast Errors
- Errors Across SKU'S vs. Errors Across Time
- Model Errors Defined in APO DP
- Definition of MPE, MAPE and RMSE
- Model Diagnostics Through Forecast Error

3:00 – 3:15pm *Coffee Break*

3:15 – 4:30pm Additional considerations

- Forecast Alerts in APO
- Diagnosis Groups
- High MAPE Alert
- Forecast Comparison Techniques

Credentials

About Us

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 DemandPlanning.Net, we offer a full menu of training programs through in-person and online courses in Demand Forecast Modeling, S&OP, Industry Forecasting and 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.



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 high profile projects with companies such as Abbott, FMC, Procter and Gamble, Au Bon Pain, Teva Pharmaceuticals and Miller SAB, Wyeth 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.



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Sample List of Clients

Abbott Labs	KNEX
AVON	Kraft Foods
Avery Dennison	Labatt Foods
Ahold USA	Labatt USA
BAE Systems	Lifetime Products
BASF	Limited Brands
Cabot Creamery	McCain Foods
Campbell Soup	New Balance
Celanese AG	Newell Rubbermaid
Clorox	Nomacorc
Eastman Kodak	NSTAR Electric
F. Schumaker	NTN USA
FMC Corporation	Optos Inc.
Glatfelter paper	OSRAM Sylvania
Grace Foods	Pacific Cycles
Harley Davidson	Pizza Hut
Hershey's	SAB Miller
Hewlett Packard	Sappi Fine Paper
Honeywell	Skyworks Solutions
Hypertherm, Inc.	Sunovion
IMP Aerospace	Teva Pharmaceuticals
John Deere	Texas Instruments
Johnson & Johnson	US Navy
Juhayana	Pfizer

Testimonials

Modeling & Metrics in SAP APO

"Exceeded my expectations. I will take home invaluable learning from this one day session.

Awesome!!! Can't say it loud enough.
Perfect class for me, excellent timing."
Sr Systems Analyst at NORDAM

"Mark is a great teacher - great interaction, very knowledgeable. I learned a LOT!"
Demand Planner at Novozymes

"This workshop is the first external Demand Planning event that I could actually qualify as a training. That I have attended.

This workshop have given me a starting point to enhance my use of APO for my Demand Planning Forecasting."
Demand Planner Manager at Yaskawa

"Smaller class allowed for great interaction hugely helpful -looking forward to taking back to my work.

Allowed for much greater understanding of SAP and its modeling capabilities!"
Demand Plan Analyst at Cargill