



Smarter Forecasting & Planning

CPDF[®] Certified
Professional
in Demand Forecasting

www.smartage.com.tr

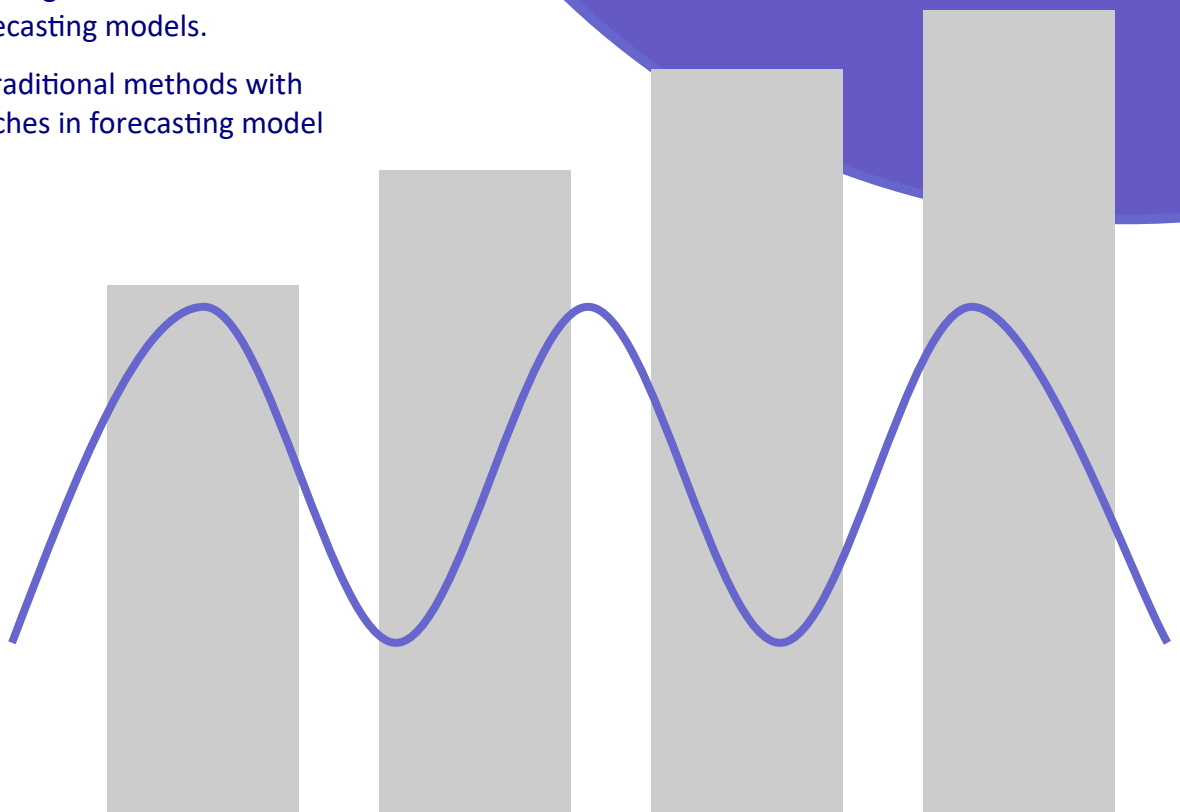
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Key Learning Objectives:

1. Establish a framework for demand forecasting in the supply chain
2. Introduce a four-step process for streamlining the forecasting cycle
3. Define, interpret, visualize major demand forecasting techniques.
4. Identify appropriate accuracy measures for evaluating demand forecasting and forecasting models.
5. Complement non-traditional methods with established approaches in forecasting model development



Program is endorsed by
International Institute
of Forecasters (IIF)



Part 0 - Pre-course Computer Workshop**Part I - The Demand Forecasting and Planning Cycle in the Supply Chain**

What is demand forecasting?

Demand Forecasting and the evolution of Supply Chain

Who will use the forecast and what are their data needs?

Forecasting as a structured process– The PEER Model

Workshop A: Defining the Target- How to Quantify Drivers of Demand for New and Existing Products and Services**Part II - Improving Data Quality through Data Exploration and Visualization**

Data exploration– Learning from actual examples

Judging the quality of data

Handling unusual events and outliers

What are forecasting models?- Quantitative vs. qualitative methods

Evaluating forecasts and forecasting models

Combining and reconciling the final forecast

Computer Workshop B: Exploring Trend and Seasonal Variation.**Part III - How To Use Components of a Time Series**

Moving averages for smoothing kinks out of data

Finding the lift in promotions with moving medians

Identifying day-of-week effects through ANOVA methods

Creating additive and multiplicative seasonal factors

Seasonal adjustment of time series

Computer Workshop C: Creating Projections and Seasonal Adjustments with the RMA Decomposition Technique.**Part IV – Forecasting with State Space Forecasting Models**

Why use Naïve forecasting techniques?

Types of smoothing weight

Forecasting profiles for exponential smoothing

Applying univariate time series techniques

Handling special events with exponential smoothing model

Scenario forecast

Product lifecycle

Computer Workshop D: Large Volume, Data-driven Baseline Forecasting with Exponential Smoothing Models**Part V – Big Data: Data Mining, Exploration and Data Quality**

Predictive Analytics– something new?

Methodologies for large-scale data exploration

Basic statistical tools for summarizing data

Traditional and nonconventional measures of variability

Data framework for demand forecasting in the cloud

Identifying criteria for assessing data quality

Handling exceptions in large data sets

Data process frameworks and job checklists

Computer Workshop E: Data Exploration, Outlier Correction, and Predictive Analytics**Part VI – Forecasting with ARIMA Time Series Models**

Creating a flexible model building strategy

Detecting autocorrelation in time series

Identifying seasonal and non-seasonal ARIMA models

Diagnostic checks and ARIMA modeling checklist

Computer Workshop F– How to Create Short-term Trend and Seasonal Models**Part VII – How to Measure Forecast Accuracy**

Basis of accuracy measurement– Bias and Precision

Forecasting errors and waterfall charts

Goodness of fit versus forecast performance

Cost of inaccurate forecasts

Traditional and conventional accuracy measurement

Computer Workshop G– Root Cause Analysis and Exception Reporting**Part VIII – Graphical Tools for Forecast Process**

Ladder charts for monitoring forecast modeling results

Prediction– Realization diagrams and business cycles

Prediction intervals for controlling judgemental overrides

Cumulative tracking signals– Trigg’s approach

Computer Workshop H– How to Use Predictive Visualization To Track and Monitor Forecasting Performance**Part IX – Implementing the Demand Forecasting Function****Within an Integrated Business Planning Process**

The Delphi Method

The forecasting audit

A framework for setting forecasting standards

Planning for process improvement

Overcoming barriers and closing gaps

Part X – Practical Uses of Forecast Modeling

- Marketing– Promotion planning
- Sales– Pricing: Elasticities
- Operations– Safety stock and inventory forecasting
- Finance– Rolling forecasts and budgeting

Computer Workshop I: Using a Time-phased Order Forecasting Model for Customer Replenishment Planning

Part XI – Designing Regression Models for Forecasting

- Finding a linear association between two variables
- Checking ordinary correlation with a nonconventional alternative
- What are regression model assumptions?
- What is a “best” fit?
- The least square assumption demystified
- The ANOVA table output for regression analysis
- Paring the output for use in forecasting
- Creating forecasts and prediction limits

Computer Workshop J– Using Causal Models for Advertising and Promotion Analysis

Part XII– Working with Residuals and Forecast Errors to Improve Forecasting Performance

- Dealing with lack of normality in time series regression modeling
- Looking out for “Black Swans”
- How good was the fit and what does it say about forecasting ?
- Dealing with nonrandom patterns in residuals
- Impact of error term assumptions on prediction interval determination
- Creating prediction intervals for forecast monitoring
- Using prediction limits for quantifying uncertainty in forecasts
- A checklist for multiple linear regression

Computer Workshop K - Taming Volatility— Root Cause Analysis and Exception Handling

Part XIII - Improving Forecasts with Subjective Judgment

- When to make judgmental adjustments to forecasts
- Judgmental traps in forecasting
- Melding quantitative and qualitative approaches for forecast development and process improvement
- Creating the final forecast with Change and Chance numbers

Computer Workshop L– GLOBL Case: Simulating The Forecasting Cycle (You may bring your own data).

- Global Electronics Manufacturer (a fictitious company) provides consumer electronic technology products to a broad range of customers worldwide
- Participants will evaluate and reconcile forecasts and prediction limits for three product lines based on univariate exponential smoothing and multiple linear regression models..

Workshop Take-Aways and Closing Remarks

Each Level of the CPDF program consists of both instructor-led workshop training hours, and independent hours to be accomplished through self-paced e-learning environment. The successful completion of each level will qualify participants to earn a certificate, CPDF levels & certificates are described below:

Smarter Demand Forecasting and Planning

144
Training
Hours

24 hours hands-on workshop

120 hours, 12 work sheets E-learning

Agile Demand Forecasting and Planning

46
Training
Hours

16 hours hands-on workshop

30 hours, 6 work sheets E-learning

Program Requirements:

- College degree or Job experience
- Reasonable experience in MS Excel
- Acceptable level of English language

Program Assessment:

- Full attendance of hands-on workshops is required
- Successful submission of required worksheets through e-learning system
- CPDF is not a test-based program.

It's a hand-on workshop. Please bring your own laptops to run the computer exercises!!



Who Should Attend?

Demand Forecasters
Supply Chain Managers
Demand planners
Supply planners
Production Managers
Operations Managers
Financial analysts
Market analysts
Researchers
Forecasters
Economists
Strategists

WHY STUDY WITH US?

1. International trainers
2. Trainers have long and global experience in demand management and forecasting.
3. High quality and excellent style of delivery with participative debate and discussion, case studies.
4. E-learning service through a unique Online Web Platform designed exclusively for CPDF Students.
5. 100% Student pass rate, endorsed by past and present students in the region.
6. Abilities to enhance local demand data with international experience and theories.
7. Interchange demand forecasting experience management with local culture and knowledge.

Our Training Partner

DELPHUS

Delphus Inc. (www.delphus.com) is a privately held corporation, headquartered in Morristown, New Jersey.

Established in 1987, the company has been dedicated to providing strategic market analyses, forecasting software tools and data mining solutions for sales and marketing managers, inventory and production planners in manufacturing, distribution, retail firms and hospital management operations. Delphus clients list contains names like: Kodak, Lucent Technologies, IBM, TAP Pharmaceutical, Pfizer, and more.

Program Leader

Dr. Hans Levenbach is the founder and President of Delphus Inc., which specializes in predictive-analytic solutions for demand planning in supply chain organizations. He is also an elected Fellow, former President and Treasurer of the International Institute of Forecasters (IIF). He is also a member of APICS, INFORMS, American Statistical Association and an elected member of the International Statistics Institute. Hans has been instrumental in designing the "Certified Professional Demand Forecaster" (CPDF[®]) curriculum (www.cpdftraining.org/curriculum.htm). He is the author of the book:



Change & Chance Embraced: Achieving Agility with Demand Forecasting in the Supply Chain

What is CPDF[®] ?

This is a certification program for demand forecasters and planners working in supply chain industries. The International Institute of Forecasters (IIF), a non-for-profit membership organization founded in 1980, whose aim is to advance knowledge and research in forecasting, has endorsed the CPDF curriculum. The CPDF program is a 190 hours curriculum comprised of two modules, "Smarter" and "Agile". Certification can be earned at each of the three levels. The CPDF qualification will address multidimensional job roles in demand forecasting such as data display and validation, database management, dashboard display, understanding quantitative and qualitative projection techniques, model creation and execution, forecast accuracy measurement, model and forecaster performance analysis, organization, and collaborative planning.

www.cpdftraining.org

How to Register?

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Phone: +90 312 2650615

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Program Fees available on request from SmartAge

3 Day Hands-on Workshop

E-Learning Exercises

Program Fees cover workshop manual, FREE excel Add ins, FREE book: Change & Chance Embraced: Achieving Agility with Demand Forecasting in the Supply Chain, and coffee/tea breaks with lunch.

Group and Early Birds Discounts Available

Registrations are made on first-come first-served basis

Participants Information

1. Name:
Company:
Job Title: Email:
Tel: Fax: Mobile:
2. Name:
Company:
Job Title: Email:
Tel: Fax: Mobile:

Registration and Payment

A registration form is available from SmartAge. The registration process is not complete until the registration fees are paid in full. Registration fees can be paid by credit card or bank wire transfer.

Cancellation Policy

Participants can cancel their registrations 15 days prior to the beginning of training. If a participant needs to cancel less than 15 days prior to the beginning of training, 50% of the registration fee will be refunded. However, there will not refund if a participant cancel s registrations less than 14 days before the beginning of training. The training program can be postponed or cancelled for justifiable reasons by SmartAge Inc. If the training is cancelled, the full registration fee will refund within 30 days.

Interested to run
this Program in-house?

[Just Contact Us](#)



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