saber
Consulting . Training . Development

SMARTER FORECASTING AND PLANNING

ABOUT
ORGANIZERS

Saber Middle East is a vibrant consulting and training firm dedicated towards serving companies in the MENA region to achieve Operations Excellence. It is lead through partners who have over 20 years of international experience in USA, Brazil, the Middle East and GCC countries.

The International Institute of Forecasters (IIF), is a non-profit organization dedicated to developing the knowledge on forecasting. Its main objective is bridging the gap between theory and practice, and bringing together decision makers, forecasters, and researchers from all nations to improve the quality and usefulness of forecasting.

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OVERVIEW

CPDF is a certification program for demand forecasters and planners working in supply chain industries, and endorsed by **The International Institute of Forecasters (IIF)**, whose purpose is to advance knowledge and research in forecasting.

The CPDF program is comprised of three levels:
Level I - Basic, Level II – Master, and Level III – Pro.

Each Level of the CPDF consists of both instructor-led workshop training hours, and independent hours to be accomplished through self-paced e-learning environment.

The **"Smarter Forecasting and Planning"** is an efficient combination of **CPDF Level I & CPDF Level II.** The successful completion of this program will qualify participants to earn a certificate.

The CPDF qualification will address multidimensional job roles in demand forecasting such as data display, database management, understanding quantitative and qualitative projection techniques, model creation and execution, forecast accuracy measurement, model and forecaster performance analysis, organization, and collaborative planning.

Interaction will be an integral part of the program.
Computer workshops will follow each topic for practical training.

1. Full attendance of hands-on workshops is required
2. Successful submission of required worksheets through e-learning system
3. CPDF is not a test-based program; it's a hands-on workshop

A laptop is required to run the computer exercises!

TRAINER PROFILE

HANS LEVENBACH | PhD

Dr. Hans is Founder and President of Delphus, Inc., which provides the PEER Planner Demand Forecasting and Replenishment Planning software solution for supply chain companies as well as hospital management organizations.

He began his career at AT&T Bell Laboratories as an applied statistician specializing in predictive analytics, forecaster training and developing decision support systems. After the breakup of the Bell System, he founded Delphus. He has taught statistics and forecasting courses at Columbia University as well as MBA Statistics at New York University.

Dr. Hans enjoys traveling and attending the annual International Symposium on Forecasting, where he gained much of the background for the most recent book. He is an elected Fellow, Past President, Treasurer of the International Institute of Forecasters (IIF), and served on the editorial board of FORESIGHT, the practitioner journal published by the IIF. He is also a member of APICS, INFORMS, American Statistical Association and elected member of the International Statistics Institute.

In collaboration with the International Institute of Forecasters, Dr. Hans has been instrumental in designing and constructing "Certified Professional in Demand Forecasting" (CPDF) curriculum for the professional certification of practitioners globally.

Highlights

- Applied Statistician
- Associate Professor
- Founder & President

- Columbia University
- New York University

- AT&T Bell Laboratories
- Delphus Inc.
- IIF

KEY BENEFITS

Establish a framework for demand forecasting in the supply chain

Introduce a four-step process for streamlining the forecasting cycle

Define and visualize major demand forecasting techniques

Identify appropriate accuracy measures to evaluate demand forecasting and forecasting models

Complement non-traditional methods with proven approaches in forecasting model development

WHO SHOULD ATTEND?

This program is directed to groups of members involved in planning, implementing and managing the company's functions:

- Demand Planners
- Demand Forecasters
- Supply Chain Managers
- Operations Managers
- Production Managers
- Sales Managers
- Financial Analysts
- Market Analysts

Agenda

DAY 1

Part I - The Demand Forecasting and Planning Cycle in the Supply Chain

- What is demand forecasting?
- Demand Forecasting and the evolution of Supply Chain
- Forecasting as a structured process– The PEER Model

Part II - Framing the Demand Forecasting Function

- Data exploration– Learning from actual examples
- What are forecasting models?- Quantitative vs. qualitative
- Evaluating forecasts and forecasting models
- Combining and reconciling the final forecast

Part III - How to Use Components of a Time Series

- Moving averages for smoothing kinks out of data
- Identifying day-of-week effects through ANOVA methods
- Creating additive and multiplicative seasonal factors
- Seasonal adjustment of time series

Part IV – Forecasting with State Space Forecasting Models

- Why use Naïve forecasting techniques?
- Types of smoothing weight
- Forecasting profiles for exponential smoothing
- Scenario forecast
- Product lifecycle

DAY 2

Part V – Big Data: Data Mining, Exploration and Data Quality

- Predictive Analytics– something new?
- Methodologies for large-scale data exploration
- Traditional and nonconventional measures of variability
- Identifying criteria for assessing data quality

Part VI – Forecasting with ARIMA Time Series Models

- Identifying seasonal and non-seasonal ARIMA models
- Diagnostic checks and ARIMA modeling checklist

Part VII – How to Measure Forecast Accuracy

- Basis of accuracy measurement– Bias and Precision
- Forecasting errors and waterfall charts
- Cost of inaccurate forecasts
- Traditional and conventional accuracy measurement

Agenda

Part VIII – Graphical Tools for Forecast Process
• Ladder charts for monitoring forecast modeling results
• Prediction– Realization diagrams and business cycles
• Cumulative tracking signals– Trigg's approach

Part IX – Implementing the Demand Forecasting Job
• The Delphi Method
• The forecasting audit
• Planning for process improvement

DAY 3

Part X – Practical Uses of Forecast Modeling
• Marketing– Promotion planning
• Sales– Pricing: Elasticities
• Operations– Safety stock and inventory forecasting
• Finance– Rolling forecasts and budgeting

Part XI – Designing Regression Models for Forecasting
• What are regression model assumptions?
• What is a "best" fit?
• The least square assumption demystified
• The ANOVA table output for regression analysis
• Creating forecasts and prediction limits

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"
• Dealing with nonrandom patterns in residuals
• Creating prediction intervals for forecast monitoring
• Using prediction limits for quantifying uncertainty in forecasts

Part XIII - Improving Forecasts with Subjective Judgment
• Judgmental traps in forecasting
• Melding quantitative and qualitative approaches for forecast development and process improvement
• Creating the final forecast with Change and Chance numbers

Valued Clients