CHICAGO, ILLINOIS USA | MARCH 18-20, 2020

DEMAND PLANNING & FORECASTING BOOT CAMP

w/ Hands-On Predictive Analytics and Using Big Data Workshop

UNDERSTANDING FORECASTING SOFTWARE AND BIG DATA FROM THE GROUND UP

" This is a great use of money. This is my third workshop, and it gets better every year. I also continue to learn new things as I grow in my company. New things I learn here take on new meaning and become far more applicable."

S. Grabhorn, *Director of Mktg Sales / Product Forecasting*
TUPPERWARE

" I could not possibly offer any suggestions for improvement. This was such a great workshop!"

T. Hatfield, *Manager of Planning*
TOYOTA

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Demand Planning & Forecasting BOOT CAMP:

w/ Hands-On Predictive Analytics and Using Big Data Workshop

UNDERSTANDING FORECASTING SOFTWARE AND BIG DATA FROM THE GROUND UP

Forecasting is a key element of business planning, supply chain planning and the S&OP process. Getting the forecast right gives you the opportunity to deliver real business improvements across all company functions. IBF's Demand Planning & Forecasting Boot Camp will help you understand your forecasting processes and software from the ground up with a world-leading masterclass based on best practices. With practical and actionable insights, you will be able to make valuable improvements in your own planning processes.

Business Forecasting has changed dramatically over the last 15 or 20 years. But what we have seen over this period is an evolution, not a revolution. The basic premise of forecasting remains: using historical data to extract patterns that assist in making business decisions about the future. Forecasting has always transformed data into insight using software - and that has not changed, even in the age of Big Data and the Fourth Industrial Revolution. The IBF Boot Camp is a 2 or 3-day program that represents this evolution by delivering 3 stages:

Day #1 | Fundamentals of Business Forecasting & Planning

Amidst rapid technological change, understanding the core concepts that drive successful forecasting and planning is more important than ever. With best practices for establishing the demand planning function, forecasting processes, organizational design, collaboration (internal and external), and planning for new products, we'll give you everything you need to position your team as a driver of growth. The path to S&OP maturity starts here.

Day #2 | Demand Planning Algorithms: Models & Metrics

The day begins with teaching time-series forecasting, the most widely used forecasting models in the field. But in this session, we'll go beyond these methods and explore the most effective ways to begin demand shaping in order to match supply with demand through the use of various initiatives like promotions, price modifications, and more. We'll also reveal the best techniques for measuring forecast and planning performance.

Day #3 | Predictive Analytics and Using Big Data Techniques

With practical tips to incorporate into your own organization, you'll be well placed to leverage the cutting-edge of analytics technology. We will focus on data science applications for forecasting and best practices using R. Recent advances in forecasting, often called Predictive Analytics techniques, involve the use of Big Data, including analysis of textual data like that created by social media (Facebook etc.). This optional masterclass is for demand planners and forecasters looking to implement the latest advancements and next-level techniques. It's a great supplement to Day 1 & 2.

IBF will provide expert instruction that introduces business forecasting newcomers to the most used tools, and enhance the capabilities of experienced forecasters, demand planners, and analytics professionals. By the end of the boot camp program, participants will understand what their software is doing and how to use it to improve their forecasting process. The IBF Boot Camp will allow you to apply forecasting insight in your own organization, driving operational and strategic decision-making.

HANDS-ON PREDICTIVE ANALYTICS AND USING BIG DATA WORKSHOP

UNCOVERING VALUE IN YOUR DATA I DAY 3 ADD-ON (Optional)

FRIDAY, MARCH 20, 2020

When Netflix suggests what movie you might like, it uses all the data from everyone that has ever watched a movie on Netflix to provide the one that best suits your preferences. Netflix is able to identify what movie you might enjoy by analysing what you have told them, i.e. how many stars you gave a movie and, more importantly, what you have actually watched. They know whether you shared your thoughts about the movie with friends, how many times you watched it, and whether you subsequently watched movies by the same director or with the same actors. There's a lot of information here! And if utilized properly, it is incredibly valuable.

DATA SCIENCE UNDERPINS this unprecedented level of insight, giving us the ability to understand consumer behavior like never before. This ever-expanding discipline combines expertise in mathematics, technology and business acumen to deliver robust analytical solutions to data-intensive challenges. Companies big and small have openly embraced powerful formulas to analyze, predict and optimize major business decisions to provide insight and competitive advantage. Google's TensorFlow application enables scalable machine learning in the cloud. Facebook and Twitter have developed algorithms to better understand and identify human behavior. In 2015, Microsoft purchased Revolution Analytics which develops an enterprise-ready version of R, the world's most popular data science programming language used by over 2 million analytics practitioners.

THE SHEER VOLUME OF DATA available for analysis is vast, and is increasing at an exponential rate with an astonishing 2.5 quintillion bytes produced every day. Big Data is defined not only by its size, but also the speed in which we receive it, and the variety of its formats (numbers, text, graphics, etc.). It presents both enormous opportunities and challenges for forecasters, with gathering and interpreting this information a key priority for many in the field.

THIS FULLY IMMERSIVE, hands-on session will enable you to learn modern analytical methods and develop your own machine learning models for predictive analytics and data mining. In some cases, we will use data science applications such as R for demonstration purposes.

Demand Planning & Forecasting BOOT CAMP:

UNDERSTANDING FORECASTING SOFTWARE AND BIG DATA FROM THE GROUND UP

INTRODUCTION TO BUSINESS FORECASTING, PLANNING & LEADERSHIP

DAY 1 | WEDNESDAY | MARCH 18, 2020

8:30 AM – 10:30 AM

MODULE 1 | FUNDAMENTALS OF BUSINESS FORECASTING & PLANNING

- Learning Objectives
- S&OP Overview
- Demand Planning Overview
- Why do Businesses Forecast and Plan?
- Summary

10:30 AM – 10:45 AM | MORNING BREAK

10:45 AM – 12:15 PM

MODULE 2 | THE FORECASTING PROCESS AND THE ROLES OF CROSS-FUNCTIONAL TEAM MEMBERS

- Learning Objectives
- Forecasting Process & Roles of Cross-Functional Team Members
- Marketing
- Finance
- Supply Chain/Production and Logistics
- Human Resources
- Natural Biases
- Summary

12:15 PM – 1:00 PM | LUNCH

1:00 PM – 2:30 PM

MODULE 3 | CONSENSUS FORECASTING & THE COMMUNICATION PROCESS

- Learning Objectives
- Problems of Multiple Number Plans
- Consensus is Critical
- Best Communication Practice
- Gaining Upper Management Buy-In Agenda
- Reporting Forecasts
- Presenting Forecasts
- Summary

2:30 PM – 2:45 PM | AFTERNOON BREAK

2:45 PM – 5:00 PM

MODULE 4 | S&OP: DRIVING BUSINESS VALUE

- Learning Objectives
- Major Characteristics of S&OP
- S&OP Monthly Cycle Timeline
- Ingredients of Successful S&OP Process
- Summary

MODULE 5 | EXTERNAL COLLABORATION AND CPFR

- Learning Objectives
- What is CPFR
- CPFR Model
- CPFR: Challenges and Keys to Success
- CPFR Benefits
- Summary

MODULE 6 | DATA MANAGEMENT

- Learning Objectives
- What you Need to Know about Data
- Univariate Time Series Model Elements
- Pattern Recognition: Linear Patterns
- Exponential Smoothing Models
- Data Analysis
- Random Noise
- Forecastability Analysis
- Data Analysis Checklist
- Summary

DAY 1 CONCLUDES

DEMAND PLANNING ALGORITHMS: MODELS& METRICS

DAY 2 | THURSDAY | MARCH 19, 2020

9:00 AM – 12:15 PM

MODULE 7 | PERFORMANCE METRICS

- Learning Objectives
- Why we Need Performance Metrics
- Forecast Error Measurements
- Forecast Value Added Analysis (FVA)
- Things to Know About Forecasting Errors
- Improve Forecasts: Remove Barriers
- Summary

12:15 PM – 1:00 PM | LUNCH

1:00 PM – 2:30 PM

MODULE 8 | SELECTION AND APPLYING FORECASTING MODELS

- Learning Objectives
- Types of Models
- Factors Impacting Forecasting
- Balancing Statistics with Other Important Considerations
- Exception Management Strategies
- Model Selection Process
- Summary

2:30 PM – 3:00 PM | AFTERNOON BREAK

3:00 PM – 4:30 PM

MODULE 9 | AVERAGING MODELS

- Learning Objectives
- Naïve Model
- Commonly Used Time Series Methods
- Average Level Change
- Average Percent Change
- Weighted Average Percent Change
- Moving Average Model
- Single Moving Average Level Change
- Single Moving Average Percent Change
- Summary

MODULE 10 | TRENDING, SEASONAL AND CYCLICAL MODELS

- Learning Objectives
- Classical Decomposition
- Seasonality
- Deseasonalizing the Data
- Formula for Computing Trend Value (T)
- Preparing Forecasts
- Summary

MODULE 11 | EXPONENTIAL SMOOTHING MODELS

- Learning Objectives
- Exponential Smoothing: Introduction
- Single Exponential Smoothing Formula
- Exponential Smoothing: Different Alpha Values
- Single Exponential Smoothing Rules of Thumb
- Pattern Recognition & Exponential Smoothing Models
- Summary

MODULE 12 | OTHER FORECASTING MODELS

- Learning Objectives
- Sales Ratio Methods: Average & Cumulative
- Family Member/Top Down Forecasting
- Causal Models
- When to use Judgmental Models
- Summary

DAY 2 CONCLUDES

HANDS-ON PREDICTIVE ANALYTICS AND USING BIG DATA WORKSHOP

UNCOVERING VALUE IN YOUR DATA | DAY 3 ADD-ON (Optional)

DAY 3 | FRIDAY | MARCH 20, 2020

9:00 AM – 12:15 PM

I. INTRODUCTION | THE QUANTITATIVE SKILL SET

a. Statistics vs. Machine Learning
b. Descriptive vs. Predictive Analyses
c. Applications: forecasting, marketing analytics, and market research
d. Common Elements
  i. Data Extraction and Assembly
  ii. Analysis
    1. Scripting
    2. Spreadsheets
    3. Other
  iii. Visualization (Graphics) and Presentation

II. DATABASES, DATA EXTRACTION, AND DATA ASSEMBLY

a. Databases
  i. Transactions
  ii. Customer Attributes
  iii. Other
b. Structured Query Language (SQL)
  i. Basic Query Structure
  ii. Example: Recency, Frequency, Monetary ("RFM")
c. External Drivers
d. Sample Queries

III. R SCRIPTING

a. R and R Studio
b. Rattle (GUI)
c. R overview

12:30 PM – 1:30 PM | LUNCH

1:45 PM – 4:30 PM

IV. DESCRIPTIVE TECHNIQUES

a. Overview: row-wise vs. column-wise operations
b. Exploratory Data Analysis (with outlier detection)
  i. Time series (univariate plots)
  ii. Probability distributions
  iii. Two- and three-dimensional plots (Example: interactive 3D plots)
c. Cluster Analysis-market segmentation (machine learning and statistical approaches)

V. PREDICTIVE TECHNIQUES

a. Overview: statistics, machine learning, and their combination
b. Regression Analysis (Continuous Outcome)
  i. Automated variable selection (statistical approaches)
  ii. Machine learning alternative: neural networks
c. Logistic Regression (Yes/No Outcome)
  i. Automated variable selection (machine learning approaches)
  ii. Receiver Operator Curve and the Probability Cutoff for Yes/No
  iii. Example-forecast driver creation ("% of customers likely to…")
  iv. Machine learning alternative: decision trees

VI. ASSOCIATION RULES (MARKET BASKET ANALYSIS)

VII. VISUALIZATION AND PRESENTATION: EXAMPLE WITH GRAPHICS

IBF BOOT CAMP CONCLUDES

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- 1/4 page B&W ad in 1 issue of the Journal of Business Forecasting
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For further information:
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Master Demand Planning, Forecasting, and S&OP with IBF Certification

Benefits of IBF Certification

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- Accelerate your career growth, leadership opportunities, marketability, and job security
- Validate your professional experience, knowledge, and skill-sets in the field
- Build confidence knowing that you're prepared for today's rapidly changing marketplace
- Complement your supply chain education & certifications with IBF
- Become more recognized at your company, as well as in the field
- Master demand planning, forecasting and S&OP

FOR EMPLOYERS:

- Save time and resources as IBF certified individuals are pre-qualified, allowing you to quickly identify the right person for a forecasting/demand planning job
- Gain assurance that an IBF Certified individual has the background to help improve forecasting performance and hit the ground running
- Increase the value of your forecasting and demand planning staff, department, and company
- Save time and resources in training — CPF or ACPF professionals already have a verified body of knowledge

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FUNDAMENTALS OF DEMAND PLANNING & FORECASTING
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IBF'S BODY OF KNOWLEDGE
$124.95 USD

John Hellriegel, CPF
Sr. Advisor/Facilitator
Institute of Business Forecasting & Planning

John Hellriegel is a Senior Supply Chain and Demand Planning, CPF leader with over 25 years of experience across multiple industries. He is currently an Adjunct Professor at Rutgers University. He has worked across industries for companies such as Estee Lauder, Honeywell, Diageo, Pepperidge Farm, Accenture, and GE. John has worked in demand planning, inventory optimization, capacity planning, deployment planning, and SIOP development. John is passionate about developing people within companies to lead change. John lives in Mendham, New Jersey with his wife and two boys.

Sara Brumbaugh
Managing Principal
Ceres Analytics

Sara Brumbaugh is Managing Principal of Ceres Analytics, a consultancy specializing in applied mathematics, statistics, and machine learning. Sara's roots are in business forecasting: she's worked with the IBF for 20 years, and is the 2015 recipient of IBF's Lifetime Achievement Award. Sara's work in predictive analytics began with construction of forecast drivers to predict stock returns. Her current analytic work supports genetic brain research at Harvard Medical School. Other recent work includes patent-pending algorithms to detect financial fraud, and genetic models to predict success of cancer chemotherapy. Sara holds a masters in Economics from Florida State University.

Demand Planning & Forecasting BOOT CAMP

w/ Hands-On Data Science & Predictive Business Analytics I MARCH 18-20, 2020

Chicago USA

Wyndham Chicago O'Hare
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Registration Type	Silver Package	Gold Package	Platinum Package	Diamond Package	Diamond Group (4 persons for price of 3) *4th FREE!*	Diamond Certify Package	Diamond Group Package (2 Persons)	Platinum Group Package (2 Persons)	Predictive Analytics/ Big Data Workshop Only
EARLY BIRD PRICING EXPIRES FEBRUARY 14, 2020	$1,599 (USD)	$1,749 (USD)	$2,199 (USD)	$2,349 (USD)	$7,047 (USD)	$3,549 (USD)	$4,598 (USD)	$4,298 (USD)	$1,299 (USD)
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PREDICTIVE ANALYTICS & THE USE OF BIG DATA WORKSHOP I MARCH 20, 2020			✔	✔	✔	✔	✔	✔	✔
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FUNDAMENTALS OF DEMAND PLANNING & FORECASTING BOOK						✔			

CERTIFICATION FEE (OPTIONAL)

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Please circle which Exam(s) you are interested in taking   1   2   3   4   5

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