

Business Forecasting: Techniques, Application and Best Practices

This workshop surveys the most commonly implemented business forecasting methods, explains how they work conceptually, reveals their strengths and limitations, and offers best practices for applying them in a business environment.

Numerous real-life examples from a range of industries will be presented to illustrate how the techniques are applied to corporate data.

You will leave the workshop with a working knowledge of quantitative and qualitative forecasting methods, enabling you to improve your forecast process and your forecast accuracy.

Format: This class was originally scheduled as a full-day preconference workshop in Rio. The virtual version of the workshop will consist of a live 4-hour session covering the core materials and one week of access to an on-demand video library of the topics that will not be presented live.

Workshop Outline:

Introduction to Forecasting (live presentation)

A broad overview of business forecasting and its various uses within the organization. Topics include approaches to forecasting, features of data, the role of judgment and resources for forecasters.

Exponential Smoothing (live presentation)

A survey of exponential smoothing techniques with particular emphasis on the Holt-Winters family of models, Croston's intermittent demand model and a new model designed to forecast items that exhibit significant volume only at certain times of the year. Topics include the pros and cons of using these models, when they are best used, how they work, identifying model components, parameter optimization and model diagnosis.

Box-Jenkins (ARIMA) Models (post workshop video access)

An exploration into the use of ARIMA models for business forecasting. Topics include the advantages/disadvantages of using these models, how and when they should be applied, automatic identification procedures and model diagnostics.

Forecasting Accuracy and Evaluation (post workshop video access)

A detailed look at evaluating the accuracy of forecasting methods. Topics include the distinction between within-sample and out-of-sample errors, a survey of error measurement statistics, a summary of findings from forecasting competitions and an explanation of how to use both real-time tracking reports and simulations as predictors of model performance.

Event-Index Models (live presentation)

Event-index models extend the functionality of exponential smoothing models by providing adjustments for promotions, strikes and other non-calendar based events. This unit addresses how these models work, how and when they should be used, and how to customize their design to best suit your needs.

Multiple-Level Forecasting (live presentation)

This section explores hierarchical forecasting techniques. Topics include discussion of the need for forecasting at various levels, product vs. geographical hierarchies, reconciliation strategies, top-down vs. bottom-up approaches, the use of proportional allocation and adjustment for seasonality.

New Product Forecasting (post workshop video access)

This session explores various approaches for forecasting new products. Topics include the pros and cons of different methods based on a product's classification, and a review of popular methods including item supersession, forecasting by analogy and the Bass diffusion model.

Dynamic Regression (post workshop video access)

A detailed look into the ins and outs of regression forecasting. Topics include when regression models are best applied, how to build the model, ordinary least squares, leading indicators, lagged variables, Cochrane-Orcutt models, hypothesis testing and the use of "dummy" variables.

About the Workshop Leaders:

Eric Stellwagen is the President and co-founder of Business Forecast Systems, Inc., a market-leading firm focused on providing software solutions and education to business forecasters. He is the co-author of the Forecast Pro software product line which is currently in use at more than 12,000 companies worldwide. He consults widely in the area of practical business forecasting and has worked with many leading firms including Coca-Cola, Mondelez, Merck, Nabisco, Owens-Corning and Verizon. With more than 30 years of experience, he is recognized as a leading educator in the field of business forecasting, and has presented seminars and workshops under the aegis's of many groups including the Institute for Professional Education, the American Production and Inventory Control Society (APICS), the University of Wisconsin, the University of Tennessee, the Institute for Business Forecasting, the World Research Group, the International Institute of Research, the Electric Power Research Institute, the International Communications Forecasting Association and the International Institute of Forecasters. He has also served on the board of directors of the International Institute of Forecasters and serves on the Practitioner Advisory Board of Foresight: The International Journal of Applied Forecasting.

Sarah Darin has 20 years of experience with statistical consulting, sales forecasting, regression modeling and marketing analytics. Sarah holds a Master's of Science in Statistics from the University of Chicago, where she also served as a Lecturer for two years. She has consulted for clients across a broad range of industries, including Consumer Packaged Goods, Telecommunications, Technology, Retail, Automotive and Finance. Before joining BFS, Sarah was Vice President of Consulting Services at Nielsen

where she focused on custom analytic solutions for the CPG and Expanded Vertical practices, teaching customers how to efficiently integrate, manage, model and forecast large-scale datasets. Sarah's ability to understand and explain statistical concepts in the context of real-world, messy data makes her an ideal instructor for this workshop. Sarah received her undergraduate degree in Applied Mathematics from Harvard University.

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