Stratum Forecasting:
A Solution Overview

Stratum offers a fully integrated environment to support the sales and operations planning process. This environment consists of a central demand repository that can be accessed by sales, finance and operational users, ensuring that information can be viewed and easily changed by them in a collaborative manner. Equally important in the S&OP process is to start with a dependable baseline forecast. The baseline forecasts created by Stratum Forecasting take into account many historical factors and provide a starting point for the various override processes that may need to occur.

Stratum Forecasting is a sophisticated statistical forecast engine that serves to create the all-important S&OP baseline process and has been rated and tested by the International Institute of Forecasters. It outperformed all of the other software entrants in the competition by attaining the lowest percent of error out of 22 entrants.

Stratum Forecasting lays a solid foundation for a well-defined forecasting process by providing:

- a consistent statistically sound, objective approach to analyzing and forecasting from historical data;
- documented visibility into forecast adjustments; and
- a sustainable forecasting system that can be easily transferred and managed by new team members.

With Stratum Forecasting, you can create accurate forecasts quickly and easily using proven statistical forecasting methods. Research has shown that no single method works best for all data, which is why Stratum Forecasting provides a complete range of forecasting approaches to address all types of business needs.

Stratum Forecasting's models accommodate seasonal demand, product hierarchies, product promotions, slow-moving items, causal variables, outliers and much more.

- **Expert Selection** - Expert Selection takes the guesswork out of forecasting. The built-in expert system analyzes your data, selects the appropriate forecasting technique, builds the model and calculates the forecasts—it even explains its reasoning in ordinary English.

- **Exponential Smoothing** - Twelve different Holt-Winters exponential smoothing models are provided to accommodate a wide range of data characteristics. The robustness of exponential smoothing makes it ideal when there are no leading indicators, and when the data are too short or volatile for Box-Jenkins. You can select the model and set the parameters yourself or let Stratum Forecasting do it automatically.

- **Box-Jenkins** - For stable data sets, Stratum Forecasting supports a multiplicative seasonal Box-Jenkins model. The model can be built completely automatically or interactively using a full range of screen-oriented diagnostics.

- **Event models -** Event models extend exponential smoothing by providing adjustments for special events like promotions, strikes or other irregular occurrences. You can adjust for events of several different types such as promotions of varying sizes or types, or movable holidays. Event models are easy to build and adaptable to a variety of situations.

- **Multiple-level models** - Multiple-level models allow you to aggregate data into groups that can be reconciled using a top-down or bottom-up approach to produce consistent forecasts at all levels of aggregation. Seasonal and event indexes can be extracted from the higher-level aggregates and applied to lower-level data.
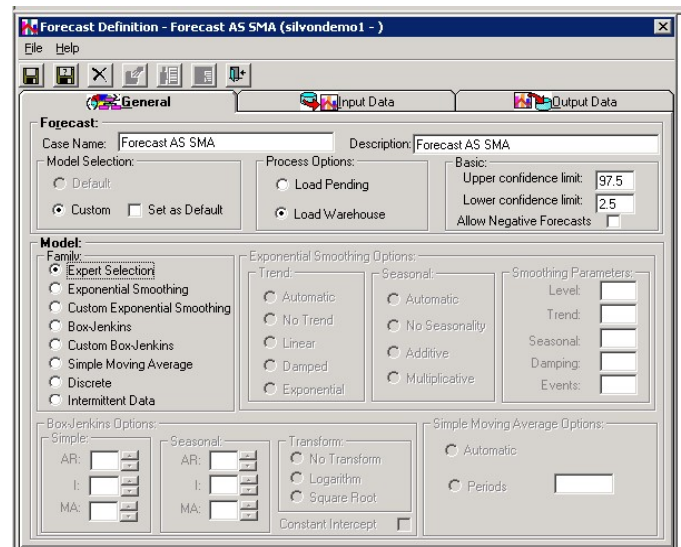
- **Seasonal Simplification** - This is a useful technique if you are forecasting data with more than 12 observations per year. Seasonal Simplification reduces the number of seasonal indexes used to model the data and often substantially improves forecast accuracy.

- **Low Volume Models** - Croston's intermittent demand model and discrete data models are provided to accommodate low volume and "sparse" data (i.e., data where the demand is often zero).

- **Simple Methods** - This set of "simple" models can be extremely useful. Moving average, "same as last year," percentage growth and fixed forecast value models are included.

- **Outlier Detection and Correction** – eliminates the statistically calculated outliers in historical data serving to clean the inputs into the forecasting engine. Users can set the outlier threshold to eliminate past events that could affect future forecasts. Without this capability a statistical forecasting tool will be much less effective. A byproduct of the process provides users a map of where promotional events occurred in the past and their relative impact on sales volume as well as any impact on related items.

Stratum Forecasting's override facility additionally allows you to adjust the statistical forecasts in a spreadsheet-like display which shows both the historical data and forecasted values. You can adjust single points, ranges or totals, using percentages, increments or by simply entering new values. If you've defined a multiple-level hierarchy, adjusting a value at any given level will automatically adjust all appropriate levels.

Tight Integration with Stratum

For our customers, Stratum Forecasting offers a means of tightly integrating the forecast process with the measurement and analysis process using Stratum and its enterprise data repository as the single system-of-record. There's no need to extract or capture data for Stratum Forecasting as with a standalone forecasting system, because it's already stored in the Stratum data warehouse for you.

Once a forecast is generated by Stratum Forecasting, it can then be compared side-by-side with actual performance results using Stratum's built-in analytics. This enables users to track performance to the forecast systematically and be alerted when suboptimal conditions exist by flagging potential anomalies that may require immediate attention. During analysis, roll ups of data across multiple dimensions are supported as well. And following analysis, measurement feedback can be easily leveraged into a collaborative forecast adjustment process.

Integrating Stratum Forecasting with your existing software systems is also very straightforward since any data automatically loaded into the Stratum storage server can be forecasted using the Stratum Forecasting engine.

Easily compare actual performance to your forecast using Stratum

Stratum provides a robust fully integrated storage, analysis, forecasting and override environment for managing and maintaining thousands of end items in a user-friendly and sophisticated, collaborative way – requiring little or no detailed knowledge of statistical forecasting methods.