Module 3
Section C: Forecast Performance

Term
Bias

Module 3
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Term
Bullwhip effect

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Term
Collaborative planning, forecasting, and replenishment (CPFR)

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Term
Demand filter

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Term
Distribution of forecast errors

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Term
Extrapolation

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Term
Focus forecasting

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Term
Forecast error

An extreme change in the supply position upstream in a supply chain generated by a small change in demand downstream in the supply chain. Inventory can quickly move from being backordered to being excess. This is caused by the serial nature of communicating orders up the chain with the inherent transportation delays of moving product down the chain. [This] can be eliminated by synchronizing the supply chain.

A consistent deviation from the mean in one direction (high or low). A normal property of a good forecast is that it is not [affected by this]. See: average forecast error.

A standard set to monitor sales data for individual items in forecasting models. Usually set to be tripped when the demand for a period differs from the forecast by more than some number of mean absolute deviations.

A collaboration process whereby supply chain trading partners can jointly plan key supply chain activities from production and delivery of raw materials to production and delivery of final products to end customers.

Estimation of the future value of some data series based on past observations. Statistical forecasting is a common example. Syn.: projection.

Tabulation of the forecast errors according to the frequency of occurrence of each error value. The errors in forecasting are, in many cases, normally distributed even when the observed data does not come from a normal distribution.

The difference between actual demand and forecast demand. [It] can be represented several different ways: mean absolute deviation (MAD); mean absolute percentage error (MAPE); and mean squared error (MSE). See: mean absolute deviation (MAD), mean absolute percentage error (MAPE), mean squared error (MSE).

A system that allows the user to simulate the effectiveness of numerous forecasting techniques, enabling selection of the most effective one.

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Forecast management

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Term
Mean

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Term
Mean absolute deviation (MAD)

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Term
Median

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Term
Mode

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Term
Normal distribution

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Term
Outlier

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Term
Probability distribution

The arithmetic average of a group of values. Syn.: arithmetic mean.

The process of making, checking, correcting, and using forecasts. It also includes determination of the forecast horizon.

The middle value in a set of measured values when the items are arranged in order of magnitude. If there is no single middle value, [it] is the mean of the two middle values.

The average of the absolute values of the deviations of observed values from some expected value. [This] can be calculated based on observations and the arithmetic mean of those observations. An alternative is to calculate absolute deviations of actual sales data minus forecast data. This data can be averaged in the usual arithmetic way or with exponential smoothing. See: forecast error, tracking signal.

A particular statistical distribution where most of the observations fall fairly close to one mean, and a deviation from the mean is as likely to be plus as it is to be minus. When graphed, [it] takes the form of a bell-shaped curve.

The most common or frequent value in a group of values.

A table of numbers or a mathematical expression that indicates the frequency with which each of all possible results of an experiment should occur.

A data point that differs significantly from other data for a similar phenomenon. For example, if the average sales for a product were 10 units per month, and one month the product had sales of 500 units, this sales point might be considered [an example of this]. See: abnormal demand.

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Term
Sample

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Term
Sampling distribution

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Term
Standard deviation

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Term
Tracking signal

The distribution of values of a statistic calculated from samples of a given size.

A portion of a universe of data chosen to estimate some characteristics about the whole universe. The universe of data could consist of sizes of customer orders, number of units of inventory, number of lines on a purchase order, and so forth.

The ratio of the cumulative algebraic sum of the deviations between the forecasts and the actual values to the mean absolute deviation. Used to signal when the validity of the forecasting model might be in doubt. See: forecast error, mean absolute deviation.

A measurement of dispersion of data or of a variable. [It] is computed by finding the differences between the average and actual observations, squaring each difference, adding the squared differences, dividing by n – 1 (for a sample), and taking the square root of the result.