January 2014 – Article - 7 Simple Ways to Reduce Forecast Errors

Balancing supply and demand is one of the most important tasks in supply chain management. However, many companies find it difficult to achieve this goal. This article will show you 7 simple ways that will help you reduce forecast errors.

Background

Forecasting is the starting point of demand/supply planning process. When, it comes to the choice of forecasting methods, there are 4 approaches that practitioners use on regular basis as below,

1 - Judgmental forecast (guesstimate)

2 - Statistical forecast (moving average, exponential forecasting etc.)

3 - Combined forecast (judgmental forecast+statistical forecast /2)

4 - Adjusted forecast (statistical forecast which is adjusted by experts)

Sales & Operations Planning (S&OP)

S&OP is the best practice that has been adopted by many world leading companies. It follows 4-step process as described below,

1 - Forecaster develops baseline forecast using statistical method

2 - Forecast is then adjusted by sales team to reflect promotion plan, new product introduction, special events, current market and economic conditions and so on.

3 - Adjusted forecast is passed to manufacturing and supply planning team to resolve potential issues.

4 - A meeting among cross-functional team is arranged to resolve demand/supply imbalance and establish consensus forecast

How to Reduce Forecast Errors

Many supply chain practitioners strongly believe that S&OP is the silver bullet solution to demand/supply planning problem. In reality, they still face with the biggest problem, consensus forecast is still wrong. To solve this problem, we conduct literature review and find useful articles as below,

1 - Against Your Better Judgment? How Organizations Can Improve Their Use of Management Judgment in Forecasting by Robert Fildes and Paul Goodwin

2 - Golden Rule of Forecasting: Be Conservative by J. Scott Armstrong, Kesten C. Green and Andreas Graefe.

3 - Multiple Experts vs. Multiple Methods: Combining Correlation Assessments by Robert Winkler and Robert Clemen

4 - Top-Down Versus Bottom-Up Demand Forecasts: The Value of Shared Point-of-Sale Data in the Retail Supply Chain by Brent Williams and Matthew Waller

These articles provide the basis to reduce forecast errors which are summarized in the infographic as below,

7 Simple Ways

1) Use simple forecasting models: believe it or not, many fancy forecasting methods have not been tested extensively in the real-world situations. For example, Box-Jenkins model was recently outperformed by simple forecasting methods. Another thing to consider is that, complicated forecasting model only provides the excuse for forecaster when the forecast goes wrong. So sticking to simple methods always yield better results.

2) Forecast at SKU level if there is no POS data: POS data has become the gold standard for demand sharing. Despite its usefulness, POS data is only shared to trading partners selectively, then, most companies will have to use their own historical data. But, the good news is, using historical data to make a forecast at SKU level can be very effective. If you get POS data, the only option is to use it to make forecast at SKU/store level.

3) Use combined forecast if forecast from customer is available: what you have to do is to also develop your own forecast based on historical data, combine it with forecast you got from customer and then divide by 2. Adding another forecast obtained from different method and data source will help to increase overall accuracy.

4) Damp trend forecast: in case a time series is very unstable, reducing weight or smoothing constant of the most recent period will help to reduce the errors because data from the most recent period may not be very reliable.

5) Obtain reasons for forecast adjustment: sales team tend to make a forecast adjustment without supporting market information. Asking for reasons for forecast adjustment will hold them accountable and higher level of accuracy can be improved drastically.

6) Measure the error of adjusted forecast, not statistical forecast: many people who adopt S&OP strongly believe that measuring the forecast error is not necessary because forecast is already validated by human which is the absolute false perception.  The most appropriate way is to measure a forecast error of adjusted forecast or consensus forecast so we can determine if S&OP meeting help to improve accuracy or not.

7) Try to reduce lead-time: many researchers said that, instead of reducing a forecast error, try to reduce lead-time is easier and yield the same result.

Do you have any others ways to reduce the forecast errors to share? Let us know at spinconsulting@spinconsulting.net