2020

VALOGIX

Forecasting and Planning in a COVID-19 Environment Whitepaper

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COVID-19 is presenting a challenge when it comes to inventory forecasting and planning. Cases range from plummeting sales to unprecedented peak sales and to longer lead times, to unavailable stock.

Further, the general consensus at the moment, is that the immediate impact as described above will be followed by either an upturn or return to more normalized levels and a gradual return to available stock. Then there is the unknown question of if the virus will return in the fall/winter and what kind of impact will be felt then.

A lot of the forecasting at the moment can be considered guesswork, but there is an underlying historic baseline that is helps to looking forward. In addition, there are several possible scenarios or strategies making it nearly impossible come up with a plan without an advanced inventory planning system. You have that system.

What is the first step?

This white paper attempts to suggest various options and how to benefit from your software investment(s). The first step is to analyze your data and come up with a plan.

Each month the new history month provides one more piece of information to help determine the direction of things and how it may vary across your products. Each day/week/month things are changing. Your sales and management team may have further insight to where your immediate customers think things are going. Management may have to curb spending. Things may have happened to your competition that impact your stocking strategy. The end result of your analysis should be an inventory plan or strategy, so that you can best decide how to use the tools you have available.

SHORT TERM

What does Short Term mean?

Each industry is different. Products are different. You are the expert in your industry so, at this point, the best guess by your company is one of the best guidelines. Currently, we see the window of March - May or mid-June as being the short term window.

What can we do to project a change in demand?

Use the **Valogix Trend Changer** functionality to raise or lower the trend direction for the 'short term'. This functionality is described in the brief five-minute recording included with this package (or requested from Valogix by emailing Customersupport@valogix.com and request the Trend Change Recording).

What if we have open supply orders due in beyond the planning horizon?

If possible, for items that are short (i.e. negative net) over the planning horizon that have open supply orders due beyond the planning horizon, bring forward those open orders before ordering more.
How? When looking at the Replenishment Plan make sure you have both On Order PH and On Order columns displayed. If the quantity in the On Order column is greater than the On Order PH column, you have open orders beyond the PH. A quick way to check is to sort on the OnOrder column (highest to lowest).

How can we avoid overbuying?

One of the biggest culprits of overbuying are large order multiples or minimums (MOQs). Using the Replenishment Plan again, look at the Negative Net value and the Required Quantity. If the numbers differ it's because of Order Multiples or Minimums. The columns can be displayed in the Replenishment Plan when they are selected in Customize View.

EMERGING FROM SHORT TERM

What can we do to project the change in demand?

Your company management is best positioned this to answer how and when things change in the opposite direction. If you can afford to error on the upside, that of course puts you in the best position for ramped up demand. If your short term period has been skyrocketing demand, you may see a slide down to normal, but it may be gradual. Use the Trend Changer Functionality to raise or lower the trend direction for this period.

What if lead times are longer than 'short term'?

Consider setting two trend changes e.g. April-June down 40% and then starting to rise July – September.

The trend change function allows for 'Freezing the forecast' which will raise or lower the forecast based on today's forecasts for those time frames. This may be an option if you think you want to base things on the forecasts computed April 1. If not consider other strategies to set your trend change.

For example: Item X has a forecast computed April 1 of 453-449-440-432-420-414 for the next 6 months. If Lead Time is 3 months or less, consider revisiting your strategy every month. But if your lead time is longer such as 6 months, and you think demand will decline over 3 months and then change directions, you have a few options. Remember, there is no right answer. You're looking 6 months out from now. So you want to go with the best plan you and your management team come up with as of today.

Strategy	% change	April	May	June	July	August	September
Current Forecast ->		453	449	440	432	420	414
Downward Trend/3 months April-June/ 40% down each month from current forecast.	-40%	271.8	269.4	264			
Based on current forecast, July will start to ramp up but probably still 30% lower than currently forecasted	-30%				302.4		
Based on current forecast, August will continue to ramp up but probably still 20% lower than currently forecasted	-20%					336	
Based on current forecast, September will continue to ramp up but probably still 10% lower than currently forecasted	-10%						372.6
New Forecast		272	269	264	302	336	373

What do we do about History during this time frame?

History during this period will most likely become a poor predictor of the future.

History Exceptions:

Short of manually analyzing and editing each and every item, the best approach will be to identify these months as history exceptions and dampening or raising the exception as needed. The system allows for automatically 'dampening' history from a very low number to either the Lower Control Limit or to an Expected Value. The Lower Control Limit is a function of the Exception Severity Configuration selected.

Low history exceptions, such as history dropping to zero or single digits, will only get picked up with a low exception severity. While you may be using a severity of something like 2.5 to find spike demand, lower the severity to 2.0 or even lower, such as 1.7 to get the really low months. The Lower Control limit value reflects the lower control at the severity threshold selected. Reset your History Exception configuration based on which exceptions you are analyzing.

Overriding a low history month can be done on several items from the History Exception report by making sure you have configured the Dampening Option as desired (To Control Limit or to Expected Value), then selecting the items you wish to have the system override from the History Exception Report and then clicking 'dampen'. For items on the list that you do not care for either system dampening option you may edit manually.

Important Notes:

(1) Do this every month i.e. do this in April and reset March. Do this again in May to reset April. Etc. If you let several months pass, the history will not appear as an exception so will not get reported as one in the History Exception report.

(2) Seasonal items are not captured as exceptions because they inherently have up and down patterns. If COVID-19 has affected the seasonal pattern of items consider turning off

Seasonality (at least temporarily) then letting the item qualify to be picked up as a history exception.

(3) Items that inherently have infrequent demand that are forecasted are most likely getting an 'Average' forecast. They also may slip under the radar for low exceptions because 0 is not an uncommon monthly demand quantity. These are the tough ones and while the quickest solution is to handle those that show up on the exception report, another suggestion is to export the History and Forecast report to Excel, filter or sort on those with Forecast Type 'average', and see if you want to manually raise or lower the months where you have demand but its higher or lower than normal.

You have at your fingertips to control what you can… also consider:

- If using SQ Replenishment Method: Consider reducing service levels during down turn and raising them again in on the upside.
- Change the Short and Long History Average configurations to 3 and 6 respectively. In a few months this will allow you to compare the two and evaluate the level of decline or increase. It may also be a better basis for Months of Supply if using this Replenishment method using history as the basis.

If you have any questions please contact Valogix Customer Support at: (customersupport@valogix.com)