Optimization Groups

To help you make efficient purchases and optimize your stocks, your articles are divided into optimizations groups depending on their demand. By doing this we are able to specify for example, items that are high in demand (F) and expensive (1), which gives us the conditions to control these articles specifically so that they always meet the set service level but with minimal safety stock. The different optimization groups are assigned different service levels that represent delivery capability to the customer. Products with high (F) demand should have a higher service level (e.g.,96%) than products with lower (H) demand.

H1, H2, H3

The H groups contains articles classified as low in sales frequency and are differentiated by which service level they have been assigned. These articles are assigned a beta value (trend) = 0 and that is because the frequency is lesser, and random rises and/or declines can make the forecast uncertain. The alpha value is set fairly low (0.1), which means that the article's forecast is based on values over a longer period of time, which results in a more stable result.

F1, F2, F3

The F groups contains articles classified as high in sales frequency and are differentiated by which service level they have been assigned. In this group, the constant for trend is on (0,1). Since the volume is higher, the risk of forecast errors due to random ups/downs is less. The result is a forecast that more quickly detects an upward or downward trend. The alpha value is set the same as the H items (0,1)

New Articles

This control group contains items that have not started to sell a stable volume yet. Specific to this group is that the alpha value is slightly higher (0.3), which means that the forecast is based on a shorter time interval. The result of this is that the forecast responds more quickly to increased demand.

Prognosis parameters

SOLO uses the calculation model exponential smoothing including trend and season. The forecast is calculated for periods of 28 days (4 weeks). SOLO calculates a prognosis including:
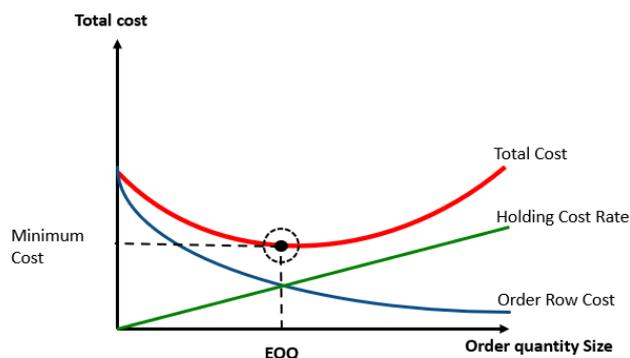
• Average sales
• MAD (safety stock)
• Trend
• Forecast errors

Checkups are performed each period to make sure the prognosis is plausible and if SOLO find it no fit – a warnings will be issued on topical items for you to evaluate.

Wilson formula

A = Order row cost
D = Demand per time
I = Holding Cost Rate (%)
C = Product Cost

$$EOQ = \sqrt{\frac{2 * A * D}{I * C}}$$

Service Level

The term Service Level is a concept which refers to the desired ability to deliver to the customer. Amongst others, it is used to dimension the safety stock (MAD) in SOLO.

Shortage situations can arise, among other things, due to fluctuating demand, forecast errors and variation in suppliers' lead times. The margin of your safety stock (MAD) is intended to cover uncertainties in assets and needs during the recovery period. Products with high demand should have higher service ratings than products with lower demand. The classification in SOLO helps you analyze your items based on turnover rate and value and in this way you can find the items that sell a lot but are expensive to storage and manage these so that they always meet the service level, but with minimal safety stock. And likewise find the items that are inexpensive to stock and manage these in a desired way.

The level of service varies depending on company strategy, but can for example look like below.
Note that 1, 2 & 3 refers to articles purchase price,where 1 is refering to high cost and 3 to low cost.

ABC Classification (based on sales volume)	
A1	90%
A2	93%
A3	97%
B1	80%
B2	83%
B3	88%
C1	60%
C2	65%
C3	75%

FGH Classification (Based on sales frequency)	
F1	90%
F2	93%
F3	97%
G1	80%
G2	83%
G3	88%
H1	60%
H2	65%
H3	75%

It is also possible to set up control groups completely customized to your needs. A good example of this is if you have articles that are classified as Never Out of Stock and that require special inventory control.
Another example could be if there are articles for which purchase proposals should not be generated at the moment, then you can create a control group with 0% in service level and thus block articles, which are placed in it, for purchases.