

RES KA FA

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Summary description

The forecasting accuracy page shows the Forecasting accuracy % ("FA"): this is the rate of the forecasts which are transformed into orders. In other words, it compares the actual demand versus the forecast and shows if the forecast was correct.

Detailed description

Forecasting Accuracy Definition

The definition of the Forecasting accuracy is:

$$FA = \left(1 - \left(\sum_{i=1}^N |x_{FORECAST} x_i - x_{DEMAND} x_i| \right) / \left(\sum_{i=1}^N x_{FORECAST} x_i \right) \right)$$

The definition of i/N depends on the level of detail.

The result of the FA depends on at what level the delta () calculation is done.

If you calculate the delta at a high level, then it means that you do not mind if the forecast was bad at a detailed level.

In this dashboard it was decided to provide the FA calculation:

- At 2 levels :
 - By Ship to KA and Product: N is the number of KA/Product couples.
 - By Ship to KA, Product and Ship to: N is the number of KA/Product/Ship to trios.
- Using 2 different forecasts :
 - Pre-SOIP M-1: the Pre-SOIP forecast 1 month in advance from APO.
 - Pre-SOIP M-3: the Pre-SOIP forecast 3 months in advance from APO.

Example:

The forecasts are done at a very detailed level, by ship to and material code:

Ship to KA	Ship to	Product	Material	Demand KG FA	Forecast M1 KG	Δ M1	% FA M1
JOHNSON MATTHEY	Johnson Matthey Argentina Sa	Mi386	106855	100	80	-20	75%
			106856	0	90	90	0%
	Johnson Matthey Catalysts Lic	Mi386	106856	80	50	-30	40%
	Johnson Matthey Catalyst Korea Ltd	Actalys (Tm) 6340 L5	24261	100	100	0	100%
	Johnson Matthey Catalysts Lic	Actalys (Tm) 6340 L5	24261	100	10	-90	-800%

The result of the FA for Johnson Matthey will be different depending on at which level the calculation is done.

In "FA by Ship to KA & Product", the delta calculation is done for each KA / Product combination. The FA is then calculated based on that:

FA By Ship to KA & Product					
Ship to KA	Product	Demand KG FA	Forecast M1 KG	Δ M1	% FA M1
JOHNSON MATTHEY	Mi386	180	220	40	82%
	Actalys (Tm) 6340 L5	200	110	90	18%
	Total	380	330	130	61%

In this case the FA for the key account is 61%.

In "FA by Ship to KA & Product & Ship to", the delta calculation is done for each KA / Product / Ship to combination. The FA is then calculated based on that:

FA By Ship to KA & Product & Ship to						
Ship to KA	Ship to	Product	Demand KG FA	Forecast M1 KG	Δ M1	% FA M1
JOHNSON MATTHEY	Johnson Matthey Argentina Sa	Mi386	100	170	70	59%
	Johnson Matthey Catalysts Lic	Mi386	80	50	30	40%
	Johnson Matthey Catalyst Korea Ltd	Actalys (Tm) 6340 L5	100	100	0	100%
	Johnson Matthey Catalysts Lic	Actalys (Tm) 6340 L5	100	10	90	-800%
		Total	380	330	190	42%

With this calculation, the FA is 42%.

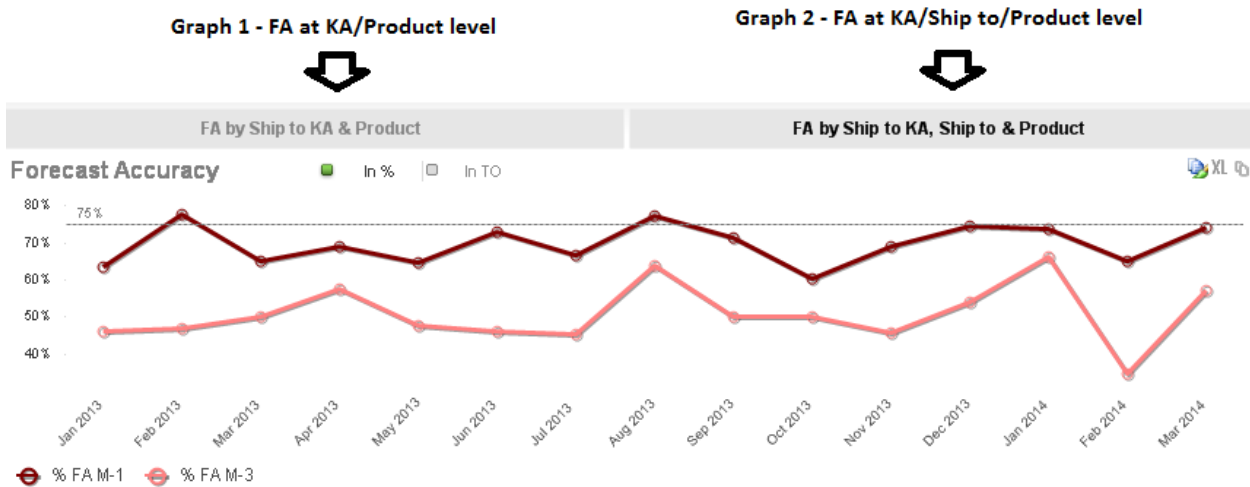
Displays

Graphic

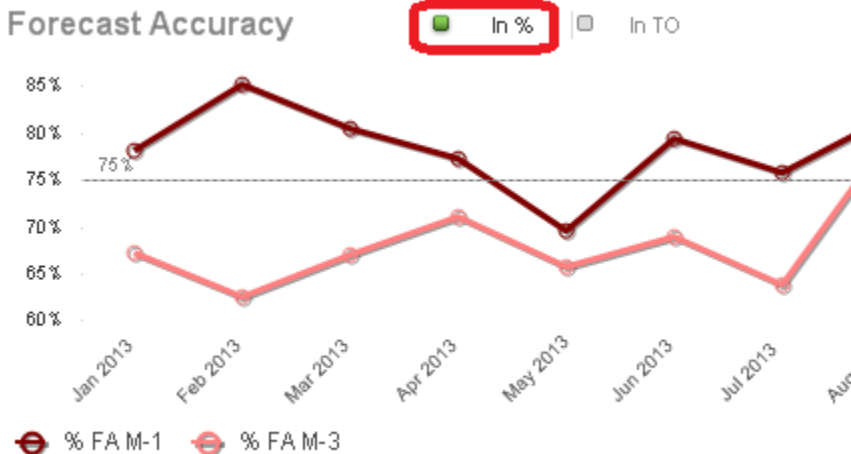
In this page you have 2 sets of graphics which show the data at 2 different levels of calculation:

Graph 1 "FA by Ship to KA & Product" & Graph 2 "FA by Ship to KA, Ship to & Product".

You can change from one graphic to the other by clicking on the tab name:



The graphic can display the data in percentages (%), or in Tons (TO). You can toggle this by clicking on "In %" or "In TO" on top of the graph:



Graphic shows:

- X is the month/quarter/year (can be changed at the top left corner of the dashboard :

Year Quarter Month None

See below for the time dimension definition.

- If selected in % :
One line shows the FA at M-1 in %.
One line shows the FA at M-3 in %.
- If selected in TO :
- One line shows the forecasted demand at M-1.
One line shows the forecasted demand at M-3.
One line shows the actual demand.

Detail Table.

Forecast Accuracy in TO

Ship to KA	Jan 2013								Feb 2013				
	Qty	Fcst Qty M1	Fcst Qty M3	Δ M1	Δ M3	% FA M1	% FA M3	Qty	Fcst Qty M1	Fcst Qty M3	Δ M1	Δ M3	
Total	901	904	766	197	251	78%	67%	831	862	713	127	267	
JOHNSON ...	373	333	284	94	98	72%	66%	365	375	274	33	96	
BASF	125	123	105	25	70	80%	33%	107	122	111	41	44	
TOYOTA	101	126	113	28	31	78%	73%	107	113	116	10	24	
PSA PELUG...	127	126	113	1	14	99%	88%	137	124	81	12	56	
UMICORE	114	122	110	31	18	75%	84%	86	87	107	15	40	
MICHELIN	40	56	38	16	2	72%	94%	20	20	20	0	0	
KC TECH CO...	-	-	-	-	-	-	-	-	-	-	-	-	
SIEMENS	17	17	1	1	16	97%	-1 506%	8	8	4	3	7	
GENERAL ...	-	-	-	-	-	-	-	0	10	0	10	0	

In the same way as the graphic, there are 2 sets of tables that show calculations are 2 different levels: "FA by Ship to KA & Product" and "FA by Ship to KA, Ship to & Product".

You can change from one table to the other by clicking on the tab name.

In both cases the table shows the same key figures (different level of calculations):

- By Ship to KA and detail by Product (Click to expand)
- Qty: the Actual demand quantity.
- Fcst Qty M1 : the forecasted demand qty at M-1
- Fcst Qty M3 : the forecasted demand qty at M-3
- Delta M1: The delta, in absolute value, between the Forecasted demand at M-1 and the actual demand.
- Delta M3: The delta, in absolute value, between the Forecasted demand at M-3 and the actual demand.
- % FA M1 : The percentage of Forecasting accuracy using forecast at M-1
- % FA M3 : The percentage of Forecasting accuracy using forecast at M-3

Details

Time dimension

The time dimension (month, quarter, and year) is based on:

- The forecast month for the forecast data (from APO)
- The **Order Last Requested Goods Issue data by the customer** for the actual demand data.

Other Dimensions

Because the calculation of the Forecasting Accuracy depends on the level of detail selected, only a very limited number of dimensions work for this KPI:

Product	Commercial product
Ship to KA	Key Account Customer

Filters

Only Rare Earth GBU materials are shown. The GBU is defined by the profit center of each material/plant following the standard structure :

Material+Plant -> Profit Center -> VS -> CGU -> BU --> GBU

Only products with actual demand (Purchase orders) or with forecasts in APO are included.
Intercompany sales are excluded.

Target

Target is defined as a fixed percentage. It can be shown on the graphic and is updated via an excel file by the dashboard owner (see main documentation page).

Getting the detail

The detail of this KPI is available via the APO query "Z24 Basic DP: FA Evolution (M-1, M-2, M-3)"



Keep in mind when comparing the results that the delta between the forecast and actual demand has to be calculated at a specific level of aggregation.