

## Activity A05\_Revenue\_Forecasting

In this activity we open a pre-built model which has a forecast tab added. We will examine the 2 views on this tab. Then we will amend the Discount % Forecast cube calculation so that it is calculated for Actual months and available for input on Forecast months.

### Examine the Forecast tab.

1. Open A05-ForecastingBefore.cdd (which is supplied with the activity resources ) and **Save As** A05\_Revenue\_Forecasting.cdd. Examine the Forecast tab of this cdd file. It should look like the screen shot below.

The screenshot displays the IBM Cognos Insight interface for the 'A05\_Revenue\_Forecasting.cdd' model. It shows two views: 'List Prices' and 'Net Revenue'.

**List Prices View:**

- Rows: Products (Artful Artifacts, Whacky Widg..., Thoughtful Thi..., Potty Possessi..., Ominous Obje...)
- Columns: Months (Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec)
- Context: List Price (List Price), Forecast Current Year (List Prices Measures)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Artful Artifacts	10.00	10.00	10.00	10.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00
Whacky Widg...	12.00	12.00	12.00	12.00	13.20	13.20	13.20	13.20	13.20	13.20	13.20	13.20
Thoughtful Thi...	15.00	15.00	15.00	15.00	16.50	16.50	16.50	16.50	16.50	16.50	16.50	16.50
Potty Possessi...	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00
Ominous Obje...	16.00	16.00	16.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00

**Net Revenue View:**

- Rows: Net Revenue (Volume, Gross Reve..., Discount %, Discount, Net Revenue)
- Columns: Months (Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec)
- Context: London (Cities), Artful Artifacts (Products), Forecast 1 Current Year (Net Revenue Measures)

	Total of	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Volume	20,390	1,537	1,550	1,580	1,611	1,644	1,678	1,710	1,746	1,780	1,815	1,851	1,888
Gross Reve...	218,012	15,370	15,500	15,800	16,110	18,084	18,458	18,810	19,206	19,580	19,965	20,361	20,768
Discount %	#N/A	7.84	7.84	7.84	#N/A								
Discount	#N/A	1,205	1,215	1,239	#N/A								
Net Revenue	#N/A	14,165	14,285	14,561	#N/A								

2. The top widget in the Forecast tab is a view of the List Prices cube. In the context Forecast Current Year has been chosen for all Products/Months. Note that the List Prices for Jan –Mar are read only and April – Dec is available for input.

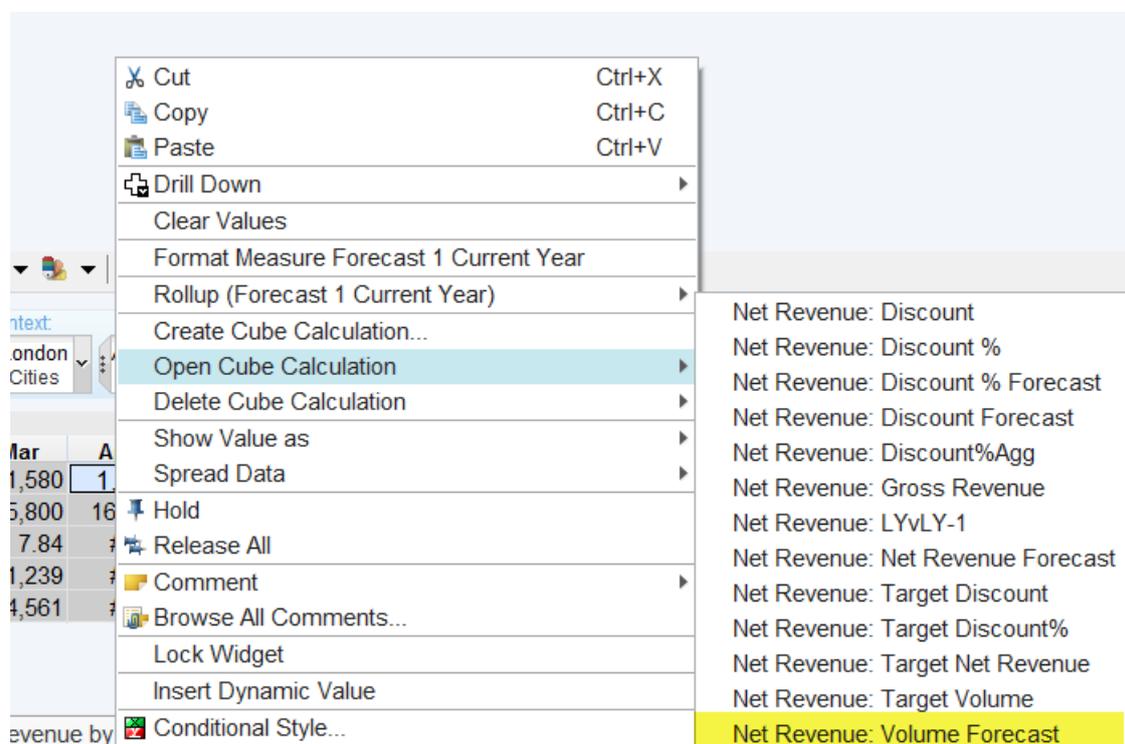
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- The bottom widget is a view of the Net Revenue cube. Note that the Volume for Jan –Mar is read only and April – Dec is writable. All other Net Revenue measures are read only for Jan – Dec. Also we can see that the forecast information is not being calculated correctly as #N/A appears in many of the cells.

### Examine the Cube calculations and correct as required

- Right click in the Net Revenue view and select Open Cube Calculation and select Net Revenue: Volume Forecast



- The cube calculation is shown below. We see that the conditional statement is using the MonthIndex attribute of the Months and Net revenue measures dimensions to control whether the Volume is populated by the cube calculation (and hence will be read only) or is left open for input.

Net Revenue: Volume Forecast

Define a new expression for:

Volume Net Revenue Forecast 1 Current Year Net Revenue Measures

Import terms...

- Imported values
- Products
- Cities
- Net Revenue

Terms | Aggregation | Simple | Functions

Expression:  Combine leaf and consolidated

Leaf-level expression Consolidated-level expression String expression

```
=IF Months.MonthIndex <=[Net Revenue.measures].[Last Actuals Month Index] THEN [Net Revenue.measures].[Actual Current Year] ELSE STET()
```

6. Select cancel to close the cube calculation without making any changes.

Let's examine this calculation in a little more detail.

7. In a previous activity you added the **MonthIndex** attribute to the Months dimension using 1 for Jan, 2 for Feb etc.

Edit Dimension - Months

Right-click a header to edit the attributes. Right-click a member to change the order of members or to nest members under other members.

Rename dimension Months

Name	MonthIndex
Total of Months	0.0
Jan	1.0
Feb	2.0
Mar	3.0
Apr	4.0
May	5.0
Jun	6.0
Jul	7.0
Aug	8.0
Sep	9.0
Oct	10.0
Nov	11.0
Dec	12.0

- As part of the modelling for this activity a **Last Actuals Month Index** attribute was added to the Net Revenue measures dimension. It is only set for the Forecast 1 Current item and in this example it is set to 3 indicating that month 3 (March) is the last month to hold actuals.

**Edit Dimension - Net Revenue Measures**

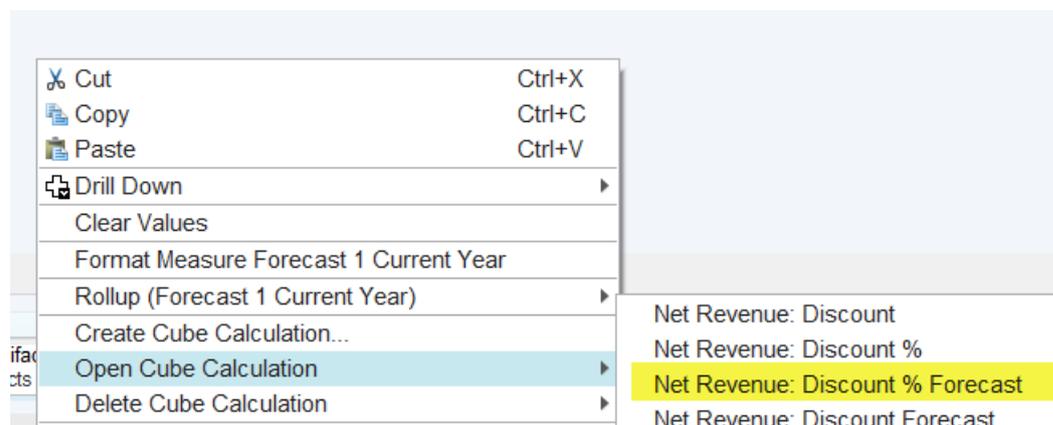
Right-click a header to edit the attributes. Right-click a member to nest members under other members.

Rename dimension

Name	Last Actuals Month Index
Actual Last Year	0.0
Target Current Year	0.0
Budget Current Year	0.0
Actual Last Year-1	0.0
LYvLY-1	0.0
Comment	0.0
Actual Current Year	0.0
Forecast 1 Current	3.0

We want to create a similar calculation for the Discount% Forecast.

- Right click in the Net Revenue view and select and select Open Cube Calculation and select Discount% Forecast.



- Add the conditional logic as per the Volume Forecast cube calculation

= IF Months.MonthIndex <= [Net Revenue.measures].[Last Actuals Month Index] THEN [Net Revenue]:Discount / [Net Revenue]:[Gross Revenue] \*100 ELSE STET()

Net Revenue: Discount % Forecast

Define a new expression for:

Discount % Net Revenue    Forecast 1 Current Year Net Revenue Measures

Dec

- Net Revenue Measures
  - Attributes
    - signswitch
    - Last Actuals Month Index

Terms Aggregation Simple Functions

Expression:  Combine leaf and consolidated

Leaf-level expression Consolidated-level expression String expression

```
= IF Months.MonthIndex <= [Net Revenue.measures].[Last Actuals Month Index] THEN [Net Revenue]:Discount / [Net Revenue]:[Gross Revenue] *100 ELSE STET()
```

11. Select OK to see that this now opens the Discount% calculation for the Forecast 1 Current Year item for input. Jan through to March is still calculated and thus is read only.

Net Revenue

Open for input

Rows: Net Revenue, Net Revenue

Columns: Months, Months

Context: London Cities, Artful Artifacts Products, Forecast 1 Current Year Net Revenue Measures

Total of Months	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	
Volume	20,390	1,537	1,550	1,580	1,611	1,644	1,678	1,710	1,746	1,780	1,815	1,851
Gross Revenue	218,012	15,370	15,500	15,800	16,110	18,084	18,458	18,810	19,206	19,580	19,965	20,361
Discount %	1.68	7.84	7.84	7.84								
Discount	3,659	1,205	1,215	1,239	0	0	0	0	0	0	0	0
Net Revenue	214,353	14,165	14,285	14,561	16,110	18,084	18,458	18,810	19,206	19,580	19,965	20,361

12. Enter some test data to confirm the calculations are working correctly.

Net Revenue

Rows: Net Revenue, Net Revenue

Columns: Months, Months

Context: London Cities, Artful Artifacts Products, Forecast 1 Current Year Net Revenue Measures

Total of Months	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	
Volume	20,390	1,537	1,550	1,580	1,611	1,644	1,678	1,710	1,746	1,780	1,815	1,851
Gross Revenue	218,012	15,370	15,500	15,800	16,110	18,084	18,458	18,810	19,206	19,580	19,965	20,361
Discount %	5.61	7.84	7.84	7.84	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Discount	12,226	1,205	1,215	1,239	806	904	923	941	960	979	998	1,018
Net Revenue	205,786	14,165	14,285	14,561	15,305	17,180	17,535	17,870	18,246	18,601	18,967	19,343

13. Commit the data.

14. Save the cdd file so that it can be used later.

This completes Activity A05\_Revenue\_Forecasting