ROW-FILTERS

MASTERING CONTEXTUAL ASSESSMENT IN POWER BI

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INTRODUTION

Understanding how row and filter context evaluation works in DAX measures is crucial to fully leverage Power BI's analytical capabilities.

Context: We define context as the environment in which measures are applied and evaluated.

Do you want to know how they work? Keep reading.

Row Context Evaluation.

Definition: Each row of data in a table contributes to the calculations of the measure, allowing for obtaining details. It represents the current row.
Example: Calculating product sales, where each row represents an individual sale.
Each row represents an individual sale, even though we haven't explicitly stated it in the measure. When adding the ProductID, the DAX engine traverses the data and yields the result of the summation for each row.
There is automatic row context.
And it's programmable, as can be done by adding FILTER in the measure.

SALES = SUM (fSales[TNet],
FILTER (IdProd ="707")

IdProducto	Ventas2
707	157.772,91
708	160.870,07
709	6.060,43
710	513,00
711	165.406,99
712	51.230,10
713	21.445,71
714	115.248,62
715	198.754,01
716	95.610,65
717	394.255,58
718	395.182,75
719	89.872,17
722	177.635,74
723	24.844,66
725	194.692,58
726	132.125,25
Total	**109.846.381,23**

Estructura	Formato	Propiedades

```
1   Sales2      =  SUM(fVentas[TNeto])
```

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Context Evaluation

Definition: Filters are applied to the data before calculating the measure, allowing for the analysis of specific subsets of data..

Example: Calculate the total sales for each product, based on the year and seller filters.

The DAX engine first filters by year and seller, then traverses the sales table to subsequently apply the Sales2 Measure and yield the table of ProductID Sales2 (This occurs due to the existing relationships between the tables).

Estructura	Formato	Propiedades
× ✓	1 Sales2 = SUM(fSales [TNet]	)

Ejercicio
- ☐ 2011
- ☐ 2012
- ☐ 2013
- ☐ 2014

IdVendedor
- ☐ 274
- ☐ 275
- ☐ 276
- ☐ 277
- ☐ 278
- ☐ 279

fVentas
- Σ Bruto
- Σ Cantidad
- Σ CosteUnitario
- Fecha
- IsWilibaran
- IdCliente
- IdDireccion
- IdProducto
- IdVendedor
- IdVenta
- Σ PU
- Contraer

IdProducto	Ventas2
976	105.872,36
973	105.121,17
793	51.310,35
974	44.906,14
794	42.514,29
781	38.975,83
998	30.350,12
779	29.231,87
801	28.908,62
784	27.539,88
780	25.055,88
783	24.785,89
969	24.317,51
782	23.408,91
954	22.887,07
957	22.887,06
797	21.513,40
Total	**1.207.665,75**

RESULT

Context evaluation :

means that the measure is calculated only for the data that meets all the applied filters, allowing for the analysis of datasets and subsets of data in more detail.

Iteration:

In Power BI, measures are evaluated based on the context in which they are used. This means that the same measure can provide different results depending on the evaluation context, whether it's row or filter context. How filters propagate varies accordingly.

1. Notice how filters are applied to the data.

2. Interpret how the results change depending on the context.

3. Compare the results.

There are Iteration measures in DAX, which is the process by which functions traverse each row of a table to calculate the measure. Examples include SUMX, AVERAGEX, MINX, MAXX, etc.

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Conclusion

We can conclude that:

Row Context: Allows for calculations to be performed for each row in a table, facilitating granular-level analysis.

Filter Context: Facilitates the analysis of data subsets by applying filters before calculating measures.

Iteration: Is essential for performing detailed calculations at the row level, allowing operations such as SUMX to be applied in Power BI tables.

Next steps: Continue exploring and practicing with DAX measures to enhance understanding and your skills in Power BI.

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