Fixed level of detail example

FIXED level of detail expressions compute a value using the specified dimensions, without reference to the dimensions in the view

We are going to create a chart that shows the interval between a customer’s first purchase date and any subsequent purchase

- Open Tableau, connect to Sample Superstore and pull over Orders to canvas, create a new worksheet
- Click on Analysis and go to Create Calculated Field
- Create 2 calculated fields: a FIXED level of detail expression and a date subtraction
  - **FIRST PURCHASE DATE**: {FIXED [Customer Name] : MIN([Order Date])}
  - **DAYS SINCE FIRST PURCHASE**: DATETRUNC('day',[Order Date])-DATETRUNC('day', [FIRST PURCHASE DATE])

- Drag Days Since First Purchase from Measures to Dimensions (it’s automatically a Measure because it contains a number)
- Drag Days Since First Purchase to Columns, click on it and choose Continuous
- Drag Sales to Rows and change aggregate to AVG
- Click on Sales and Choose a Running Total Quick Calculation
- Drag First Purchase Date to Color
- Click on it in Color field and change it to Quarter
- Click on the dots next to the Quarter field and click colors

It’s interactive! Click on the different years in the legend

Include level of detail example

- Compute values using the specified dimensions in addition to whatever dimensions are in the view.
- Useful when you want to calculate at a fine level of detail in the database and then re-aggregate and show at a coarser level of detail in your view. Fields based on INCLUDE level of detail expressions will change as you add or remove dimensions from the view.

Create a visual of total sales per customer per region

- Click on Analysis and Select Create Calculated Field
  - Name is SalesPerCustomer
  - {INCLUDE [Customer Name] : SUM([Sales]) }
- Place SalesPerCustomer on ROWS and aggregate it as an AVG
- Put Region in Columns shelf

NOW

- Drag SALES over to Rows

Shows the difference between the sum of sales (somewhere between $390k and 700k per region) AND the avg sales per customer (between 750 and 1100 per region)

Exclude level of detail example

- prevent the calculation from using one or more of the dimensions present in the view.
- useful for ‘percent of total’ or ‘difference from overall average’ scenarios. They are comparable to such features as Totals and Reference Lines.
- cannot be used in row-level expressions (where there are no dimensions to omit), but can be used to modify either a view level calculation or anything in between (that is, you can use an EXCLUDE calculation to remove dimension from some other level of detail expression).

- Go to Analysis and Select “Create Calculated Field”
  - Name is ExcludeRegion
  - {EXCLUDE [Region] : SUM([Sales])}
- Move Region and Sales to Columns
- Order Date to Rows and make sure it’s by MONTH

This breaks out the sum of sales by region and month

- Drag ExcludeRegion over to Color

Shades the view to show total sales by month w/o regional component

Table calculations

- Allow transforming values at the detail level of visualization only.
- Executed based on a tabular format with fields in rows and columns.

Ad-hoc calculations

- Temporary calculations that are carried out only for current visualizations.

Key performance indicator table

- Sub-Category to Rows, Region to Columns and Sales to Text
- Create a Calculated Field “KPI”
  - IF SUM ([SALES]) > 25000 THEN “ABOVE BENCHMARK” ELSE “BELOW BENCHMARK” END
- Change Mark card to Shape from drop down
- KPI > Shape
- Click Shape and choose KPI: Above (green) and Below(red)
- Change Sums from Text to Detail

extras

- Tooltips display when you put the mouse over one or more marks in view
- Utilize the Analytics tab for Modeling & Summarizing
- Use trend lines in predicting of given data (linear, logarithmic, exponential and polynomial)
- Forecasting depends on the number of historical data points available
- Clustering groups data points together and separating them from other dissimilar data objects

Your dashboard

The interface

- Default = the device that the dashboard will be created
- Size = size of your presentation screen
- Sheets = shows the names of your Worksheets
- Objects = how to place sheets and add other helpful items

Objects on your dashboard

- Horizontal/Vertical: how to display your sheets and other objects
- Text: creates a text box
- Image: insert outside images (like a pic of a matplotlib plot!)
- Webpage: creates a web page interface
- Blank: creates blank box
- Navigation: provides users with ability to build navigation buttons
- Download: dashboard can be downloaded in PDF format
- Extensions: third-party allowing customized visualizations
- Ask Data: AI functionality from Tableau Server

- Click and drag sheets over to the canvas to use
- Tiled: Fixed Location & Floating: unfixed location
- You can highlight data & add URL links

Best practices

- Choose appropriate visualizations
- Line charts: best for seeing change over time
- Maps: best for seeing geographical data
- Bar Charts: best for seeing highest or lowest value
- It is difficult to read long names vertically
- Choose appropriate size: avoid scroll bars & scrunched views

Your storyboard

- Groups of dashboards and visuals arranged to tell your story
- They are dynamic and interactive!
- Left side has created dashboards, text option and size
- Layout tab has Navigator styles
- The grey boxes designate slides & provide area for you to make notes
- Drag visualizations and dashboards as appropriate

- Your work gets saved automatically to Tableau Public