Filtering and Counting with DAX Lab

Resources: https://github.com/fenago/cts245X/tree/main/dax

Part 1: Filter ALL the data

Open `3_1_all.pbix` from the Exercises folder on the Desktop.

Select a year on the top slicer and notice how both the table and the column chart change accordingly. The YoY calculation gets messed up, since you need multiple years to calculate a YoY change.

Let's fix that by creating a new measure in the `_Measures` table, called `Retail Price YoY% ALL`. It should give the `Retail Price YoY%` through all calendar years.

You can use the second term of the `CALCULATE()` function to filter an expression through different levels. Including an `ALL()` function for `Calendar Year` in this second term could help include all values for the different calendar years.

- Change the formatting to "Percentage".
- Edit the column chart so that your newly created measure is used.

Select the year 2014 using the slicer. By how much did the YoY% value change in 2016?

- ○ -100 %
- ○ +10.88 %
- ○ -67.03 %

Part 2: Calculating with a filter

Create a new page and call it `Chiller Analysis`.

Create a measure called `Total Sales` that sums up `Fact_Sales[Total Excluding Tax]`.

Create a measure called `Total Sales Chiller` that calculates `Total Sales` from the fact table, only including the chilled items by using `FILTER()`. You can use the `RELATED()` function and the `Dim_StockItem[Is Chiller Stock]` column to check this.

Your formula should be structured like this:

```
Total Sales Chiller = CALCULATE(____,
____(Fact_Sales, RELATED(____) = ____))
```

- Create a measure called `% Total Sales Chiller` that divides `Total Sales Chiller` by `Total Sales`, by using the `DIVIDE()` function.
- Change the formatting to "Percentage".

Visualize on a *Clustered bar chart* the `% Total Sales Chiller` by the `Preferred Name` of the employees.

Which employee had the highest percent of total sales in the chiller category?

Part 3: Analyzing across dimensional tables

Create a new measure called `Count of Chiller Items` that **counts** the number of **rows** of `Dim_StockItem` where `Dim_StockItem[Is Chiller Stock]` is `TRUE`. You can use `FILTER()` within `COUNTROWS()` to count the number of rows that are `TRUE` for `Is Chiller Stock`.

Create a *Clustered column chart* to visualize the `Count of Chiller Items` by `State Province`. Does this look right?

`Count of Chiller Items` will always be the same, regardless of which state you filter by. That is because there is no relationship from the fact table to the `Dim_StockItem` dimension table. Let's fix that by **calculating** `Count of Chiller Items by Stock Item Key` with a bi-directional relationship using `CROSSFILTER()`, and `Stock Item Key` as the key.

- Create a new page, called `Geography`.
- Create a map, showing for each `State Province` the `Count of Chiller Items by Stock Item Key`, represented by the size of the bubble.

How many chiller items where sold in Hawaii?