# Lab 3 Create Model Calculations using DAX.

**Objectives**

**Time: 20-35 Minutes**

1. Create a calculated column for **Total Sales** retrieving the product unit price from the products table using the related tables DAX function.
2. Create a generated calendar date dimension table and connect it to the existing data model.
3. Create two iterator measures.

* SUMX
* AVERAGEX

1. Create Explicit measures for

* Quantity
* Variance between Sales and Sales Target
* Variance % using the DIVIDE Function

1. Create a measures table and organize measures into a folder structure.

**Lab steps**

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| 1) Create a calculated column based on related tables   * Using RELATED DAX function, create a new calculated column that appends [UNIT PRICE] to the Sales By Country Files. * Develop a Total Sales calculated column by taking the product of Quantity and unit price. | |  |  | | --- | --- | | Formula | Format | | Total Sales = 'Sales By Country Files'[Quantity]\*RELATED('Product'[Unit Price]) | Whole Number | |
| 2) Create a generated calendar dimension table   * Navigate to the Table View and from the Home tab select new table. * Using the ADDCOLUMN function, create a calculated calendar dimension table with following fields.   **Year**  **Month Number**  **Month Short Name**  **Month Long Name**  **Quarter**  **Day of the week**  **Week Number**   * Format the Date column to date only. * You will need to use the sort by column option to sort the month in proper order. * Select the Month Short Name column in the table view and from the column tools select the sort by month option. | |  | | --- | | Formula | | Cal\_tbl =  ADDCOLUMNS(     CALENDARAUTO(),     "Year", YEAR([Date]),      "Month",MONTH([Date]),      "Month Short Name", FORMAT([Date],"mmm"),      "Month Long Name", FORMAT([Date],"mmmm"),      "Quater","Q"&QUARTER([Date]),      "Day of the week",FORMAT([Date],"ddd"),      "WeekNum",WEEKNUM([Date],2)  ) | |
| * Connect the Cal\_tbl to the data model note that the connection between the ShipDate and the Cal\_tbl will be inactive as indicated by the dashed line. |  |
| 3) Create iterator measures   * Create the following iterator measures and place them into a table visual with the year from the calendar table. | |  |  | | --- | --- | | Formula | Format | | AVGX Sales = AVERAGEX('Sales By Country Files','Sales By Country Files'[Quantity]\*RELATED('Product'[Unit Price])) | Currency | | Total Sales = SUMX('Sales By Country Files','Sales By Country Files'[Quantity]\*RELATED('Product'[Unit Price])) | Currency | |
| 4) Create supporting measures  **Create the following measures**   * Sales Target * Variance of Sales to Target * Variance % * Quantity   Add all four measures to the table visual including the Year from the calendar table | |  |  | | --- | --- | | Formula | Format | | Sale Target = SUM('Targets By Period'[Sale Target]) | Currency | | Variance = [Total Sales]-[Sale Target] | Currency | | Variance % = DIVIDE([Varience],[Sale Target]) | Percent | | Quantity = SUM('Sales By Country Files'[Quantity]) | Whole Number | |
| 5) Create a measures table and organize measures into a folder structure   * From the home tab navigate to the Enter data option. At the bottom of the screen label the table **KPI Measures** * By selecting the measures, you can now go to the Measures tools tab and change the home table location to the new KPI Measures table. * You can also navigate to the model view where you can drag and drop the measures. |  |
| * Once you have measures in the table you can delete column1 * From the properties tab you can create sub-folders to place your measures * In the Display folder choose a folder name to organize your measures and make them easy to find. * **\*\*Note that you will only be able to move measures into the subfolders from the model view** |  |
| **END** |  |