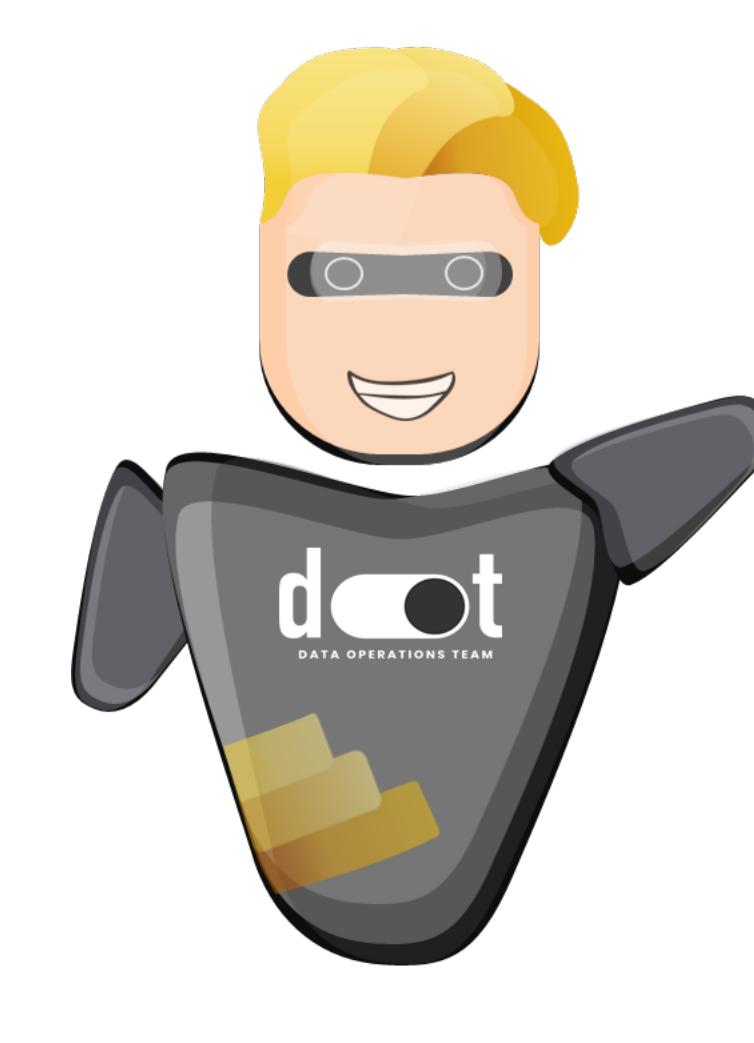




NESTLÉ POWER BI TEST

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INSTRUCTIONS BEFORE TAKING THE TEST:

Please take a couple of minutes to read this before taking the test.

1. This task is an important step in analyzing your knowledge, so please ensure your best effort to complete the task as instructed to gain maximum score, in case of any ambiguity or issues with a task, apply your known method of achieving the same results. Save and upload the file with the total time it took you to develop. Please save your results in a file called DAT PBI Test_<name>_..... mins;
2. Makes sure you have the latest Power BI desktop tool installed;
3. Make sure you are using the base pbix file sent to you to load the data to carry out the test tasks;
4. Make sure data is available on your local machine;
5. Ensure all the above steps are completed before you start the clock for taking the test;
6. Proceed ahead to take the test (continue to next page).

1

DATA LOAD

Unzip the files sent to you on your local PC (Dimensions contains dimensional data in excels and csv and Sales - fact data for several countries and years:



Dimensions



Sales

1.1 PARAMETER CREATION AND LOADING DIMENSION TABLES

Create a parameter for storing the **Dimensions** folder path.

Load all dimension files using the Dimensions folder parameter as the path. Make sure all dimensions have their PK unique.

1.2 PARAMETER CREATION AND LOADING SALES TABLES

Create a parameter for storing the **Sales** folder path.

Create a mechanism to load all the files from the sales folder in a single Sales fact table.

The mechanism needs to be resilient as:

- removing a file from the sales folder does not create an error for missing files;
- adding a new yearly sales file will automatically be loaded in the fact query upon refresh.

2 DATA MODELING

Demonstrate understanding of data preparation and data modeling

2.1 DATA PREPARATION

Transform the Sales fact table in order to have the “**Location**” column split into other two columns, Country and City. Make sure you set up the correct Data Type to allow Geo maps.

Do the necessary updates in the Date field to make sure you can setup the Date format.

2.2 CREATE A GEOKEY

Create a unique key (**GeoKey**) in the Geography table.

Create the corresponding **GeoKey** column in the sales table, so all the sales rows would be associated to a single record in the Geography table.

2.3 CREATE A FUNCTION

The Dimensional queries SalesRep and SubCategory needs additional treatment.

For Example, some ID columns have the following format:

SalesRepID
ID - 6
ID - 7
ID - 5
ID - 3
ID - 1
ID - 2
ID - 4

Create a small function that removes the “ID - ” part of these columns that you can invoke and reuse for these two queries to clean the IDs. The function needs to have a scalar value as an argument and needs to return a scalar value.

2.4 CREATE A DATA MODEL

Create the Data Model connecting all tables and using the Calendar table already set up in the pbix.

Ensure all the key relationships between the tables such as Geokey, Category, Subcategory, Salesrep, date, etc are all defined

3 DAX CALCULATIONS

Demonstrate analysis skills within Power BI

3.1 TOTAL REVENUE

Calculate **Total Revenue** in Sales table, using the Product's Retail Price, and multiplying it by the Units.

3.2 TOTAL COST

Calculate **Total Cost** in Sales table, using the Product's Standard Cost, and multiplying it by the Units.

3.3 GROSS PROFIT

Calculate **Gross Profit** in Sales : Total Revenue – Total Cost

3.4 GROSS PROFIT %

Calculate **Gross Profit%** measure that could be sliced by Country, City and Product.

The % Gross Profit is a calculation **Gross Profit / Total Revenue**

Hint: the **Gross profit %** for Germany in 2017 is **68.95%**

3.5 AVG SALES PER DAY

Calculate a measure for **AVG sales per day** – this is the average sum of **Total Revenue** per day based on the Dates of actual Sales.

3.6 CREATE A DATA MODEL

Create a market share measure MS% to show the Sales Market Share by each country (Country Total Revenue / Total Revenue of all sales) as shown in the below example.

Make sure it can be filtered by each year as shown below. The Total Revenue sales for each selected time period is normalized to a base of 100 % as shown below.

Note: Total Revenue of all sales is the Total Revenue of the whole Sales table.

Year		
	2015	2017
SubCategory Name	MS%	
Extra	49.62%	
Micro	14.77%	
Regular	14.02%	
Super	21.59%	
Total	100.00%	

3.7 TIME MEASURES CALCULATION

Calculate the following time measures:

- Total Revenue YTD
- Total Revenue YTD LY (Last Year)
- Total Revenue MAT (Moving Annual Total -last 12 months)
- Total Revenue MTD (Month to Date)

4 VISUALIZATION

Demonstrate best practices in Visualization. Feel free to use your imagination to best represent the data you have available.

4.1 SHOWCASE BEST PRACTICES

Use the measures and calculations to assemble a sales report with different visuals to best show the Sales Insights in one-page Dashboard.