Program: Data Science for Business /Spring Semester 2023

Subject: Data Visualization

Practice 2:

Deadline: 25 March 2023

Format*:* Share a github link via Slack with Julieta and Marianna.

Grade*:* 2 point

Task:**DAX Exercise in Power BI**

Use the following tutorial as a reference for DAX syntax:
📊 How to use Power BI DAX - Tutorial - YouTube

1. Open Power BI Desktop and create a new report.
2. Import a sample dataset into Power BI Desktop. For this exercise, you can use the "AdventureWorks" dataset that comes with Power BI.
3. In the "Fields" pane, select the "Internet Sales" table and add it to the report canvas.
4. Create a new measure by clicking on the "New Measure" button in the "Modeling" tab.
5. In the formula bar, type the following DAX formula to calculate the total sales amount:(which is the sum of Sales Amount)
   ///…….
6. Press Enter to create the measure.
7. Create a new measure to calculate the total cost of goods sold: (which is the sum of Total Product Cost)
   ///…….
8. Create a new measure to calculate the gross profit:
   ///…….
9. Create a new measure to calculate the gross margin using the following formula:
   ///…….
10. Create a new measure to calculate the year-over-year (YoY) growth rate of gross margin: (use CALCULATE and VAR functions in DAX)
    ///…….
11. Create a new measure to calculate the cumulative sum of YoY gross margin growth: (use CALCULATE and VAR functions in DAX)
    ///…….
12. Create a line chart visual on the report canvas, and add the "Date" field to the "Axis" and the "Cumulative YoY Gross Margin Growth" measure to the "Values".

13. Use the "Format" pane to format the visualizations as desired.
14. Save the report and publish it.

Visualization Exercise in Power Bi

1. Create a clustered column chart to visualize the total sales amount and total cost of goods sold for each product category. Use the "Product Category" field for the "Axis" and the "Total Sales" and "Total Cost of Goods Sold" measures for the "Values". Format the chart to use different colors for the columns representing the total sales amount and total cost of goods sold.
2. Create a stacked column chart to visualize the gross profit and gross margin for each product category over time. Use the "Date" field for the "Axis" and the "Product Category" field for the "Legend". Use the "Gross Profit" and "Gross Margin" measures for the "Values". Format the chart to use different colors for the stacked columns representing the gross profit and gross margin.
3. Create a table visual to display the top 10 products by total sales amount, and include columns for the product name, product category, total sales amount, total cost of goods sold, gross profit, and gross margin.
4. Create a scatter chart to visualize the relationship between the total sales amount and total cost of goods sold for each product. Use the "Total Sales" measure for the "X-axis" and the "Total Cost of Goods Sold" measure for the "Y-axis". Use the "Product" field for the "Legend" and the "Product Category" field for the "Details". Format the chart to use different colors for each product category.
5. Create a slicer visual to filter the report by product category. Use the "Product Category" field for the slicer and format it to display as a dropdown list. Use the "Sync slicers" feature to link the slicer to all other visuals on the report canvas.