Global Superstore Dashboard Documentation

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INTRODUCTION

The main aim of this project is to carry out an in-depth analysis of the dataset, with a specific emphasis on sales and profit metrics. To accomplish this, we will utilize data filtering methods to refine and streamline the dataset, making sure that only the most pertinent columns are included in our analysis.

1. Design Choices

Dashboard Layout:

- The dashboard is divided into distinct sections to present key metrics and insights clearly:
    - **Year Filter**: Allows users to filter data by specific years (2011, 2012, 2013, 2014).
    - **Key Metrics**: Total Sales Revenue, Total Quantity, Average Delivery Days.
    - **Sales by Product Category**: Pie chart visualizing sales distribution among categories.
    - **Sales Trend Over Time**: Donut chart showing sales trends across different markets.
    - **Monthly Sales Comparison**: Line chart comparing total sales month-over-month (MoM).
    - **Top Selling Products**: Bar chart of top-selling products.
    - **Top Customers**: Bar chart of top customers by sales.
    - **Total Sales by Region**: Map showing sales distribution across regions.

Color Scheme:

- A consistent color scheme is used to differentiate various data categories and maintain visual appeal.

Interactivity:

- Slicers for year selection.
- Interactive charts and maps for detailed exploration.

2. Data Sources

- **Global-Superstore Dataset**: The primary dataset containing sales data, including columns for Order Date, Sales, Quantity, Product Category, Market, Customer Name, and Product Name.

3. Steps Taken to Create the Dashboard

Step 1: Data Import and Preparation

- Imported the Global-Superstore dataset into Power BI.
- Ensured data types were correctly assigned (e.g., date, text, numeric).
- Identify and handle missing values
- Identify and remove duplicate records
- Standardize data formats and correct inconsistencies
- Split columns if needed for better analysis

Step 2: Data Cleaning and Transformation

- **Date Formatting**:

Created a separate Date Table for handling time series analysis.

- **Date Table DAX Code**:

DAX

DateTable = CALENDAR(MIN('Global-Superstore'[Order Date]), MAX('Global-Superstore'[Order Date]))

DateTable[Year] = YEAR(DateTable[Date])

DateTable[Month] = FORMAT(DateTable[Date], "MMMM")

DateTable[YearMonth] = FORMAT(DateTable[Date], "YYYY-MM")

- **Relationships**: Created relationships between the Date Table and Global-Superstore table using the Order Date column.

Step 3: Creating Calculated Columns and Measures

- **Total Sales Revenue**:

DAX

Total Sales Revenue = SUM('Global-Superstore'[Sales])

- **Sales by Category**:

DAX

```
Sales by Category =
SUMMARIZE(
    'Global-Superstore',
    'Global-Superstore'[Category],
    "Total Sales", SUM('Global-Superstore'[Sales])
)
```

- **Top Selling Products**:

DAX

```
Top Selling Products =
TOPN(
    10,
    SUMMARIZE(
        'Global-Superstore',
        'Global-Superstore'[Product Name],
        "Total Sales", SUM('Global-Superstore'[Sales])
    ),
    [Total Sales],
    DESC
)
```

- **Sales Trend Over Time**:

DAX

```
Sales Trend =
SUMMARIZE(
    'Global-Superstore',
    'DateTable'[YearMonth],
    "Total Sales", SUM('Global-Superstore'[Sales])
)
```

- **Monthly Sales Comparison**:

DAX

```
Monthly Sales =
CALCULATE(
    SUM('Global-Superstore'[Sales]),
    ALLEXCEPT('Global-Superstore', 'DateTable'[YearMonth])
)
```

Step 4: Visualization

- Created the various visualizations mentioned in the design choices section.
- Ensured each visual was interactive and could filter data dynamically.

Step 5: Performance Optimization

- Applied data summarization and aggregation techniques to optimize dashboard performance.
- Used appropriate data modeling techniques to ensure efficient data handling.

4. Additional Considerations

- **Data Refresh**: Set up scheduled data refreshes to keep the dashboard up-to-date.
- **Security**: Ensured data privacy and security by restricting access to sensitive information.
- **Usability Testing**: Conducted usability testing to ensure the dashboard meets user needs and is intuitive to navigate.
- **Documentation and Training**: Provided documentation and training sessions for end-users to maximize the dashboard's effectiveness.

This documentation provides a comprehensive overview of the steps and considerations involved in creating the Global Superstore Dashboard in Power BI.

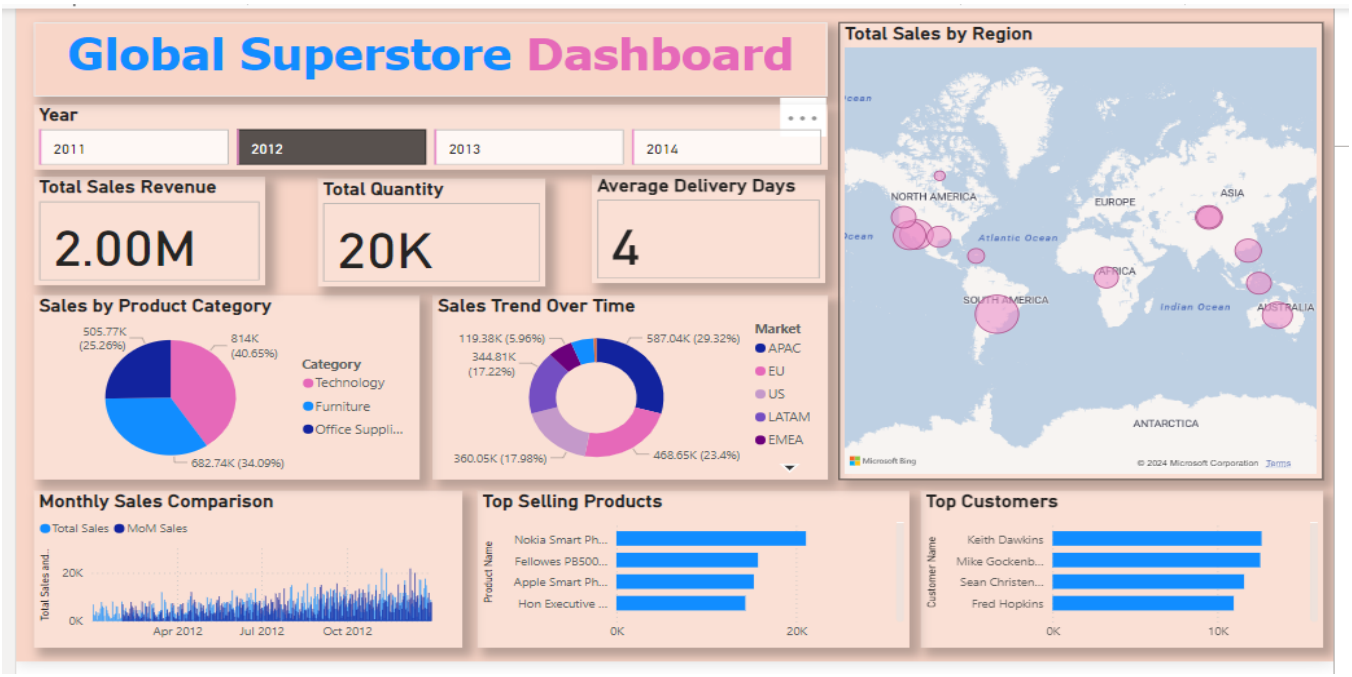

Figure 1. The final Global Superstore Dashboard created