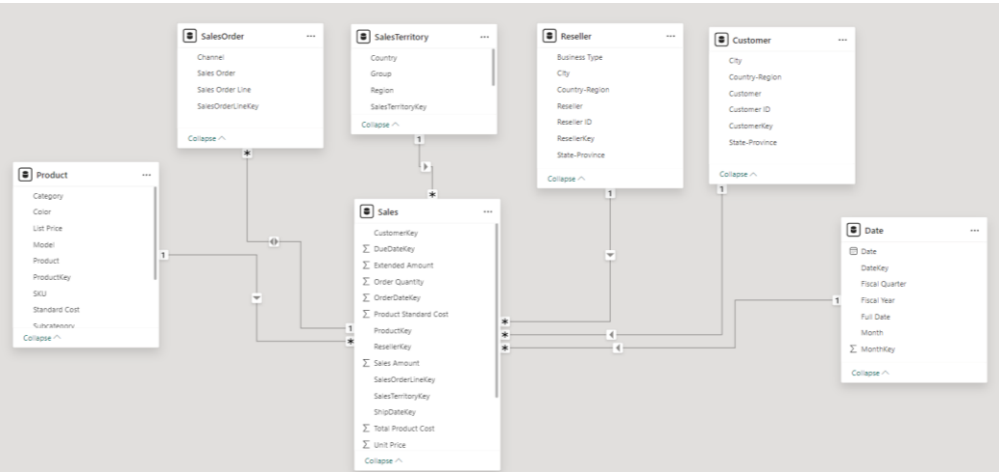
Retail Sales Analysis Using Power BI

Objective:

To build a Power BI sales analysis dashboard that offers a thorough rundown of important sales data, product performance, and client insights. With the aid of this dashboard, stakeholders will be able to track sales performance in real time, evaluate patterns, and make data-driven choices that will improve revenue creation and comprehend consumer behaviour.

Methodology:

1. **Data Collection and Preparation:**
    - Obtain or simulate the dataset containing sales and customer details.
    - Data Cleaning and Transformation
    - Import the cleaned data into Power BI and review data quality.
    - Set up relationships between tables for effective data analysis and accurate insights.



    - Organize the Product table by creating a hierarchy on the Category column, naming it "Product_categ," for more structured navigation.
    - Also created hierarchy in sales territory table named as Country_region on column Country.

2. **Visualizations and KPIs**

    a) **Created KPIs using DAX**
    Visualize total revenue, total number of products sold, profit, and profit margin to give stakeholders a clear, quick overview of key metrics.

1. For Total Revenue

```
Total Revenue = SUM(Sales[Sales Amount])
```

2. Total number of products sold

```
Total No. of Product sold = SUM(Sales[Order Quantity])
```

3. Profit

```
Profit = SUM(Sales[Sales Amount]) - SUM(Sales[Total Product Cost])
```

4. Profit Margin

```
Profit Margin = DIVIDE([Profit], SUM(Sales[Sales Amount]), 0)
```

b) Sales Trend over time

- Created a slicer for yearly analysis.
- Quarterly sales using area chart.

c) Top and Bottom selling products

Used book mark feature to create a visualization to provide top 5 and bottom 5 selling products.

d) Sales by region

- Created a visualization using bar chart to analyse sales performance in different regions.
- Also implement drill down.

e) Sales by category

Using donut chart to Analyze and compare sales performance by product category to identify high-performing categories.

f) Contribution of each category

Created a matrix table to identify contribution in profit and revenue by each product category.
Also apply Conditional Formatting.

g) Created a page Navigation

Page navigation is added in both pages. In page 'Dashboard' created a clickable button named as Sub-category which navigate to second page which is named as 'Sub-category' and this page also have a navigation button named as 'Back to Dashboard' go back to main dashboard page.

Insights:

- It shows the overall sales trend, profitability by product and region, and a customer distribution.
- It helps in identifying quickly less performing products and high-performance regions.
- It helps in making strategic decisions by showing variations in a profit margin at different categories and time intervals, besides revealing sales trends.

Conclusion:

The Power BI sales analysis dashboard provides a very effective overview of sales data, product performance, and customer insights to the relevant stakeholders. The stakeholders will have the ability to get the view of real-time monitoring of overall revenue, volume of product sales, profit, and profit margin easily through dynamic infographics, efficient KPIs, and organized data arrangement. The dashboard also comprises top and bottom-selling products, regional sales patterns, and category contributions to profit and revenue for data-driven decision-making. The dashboard also provides a better user experience through drill-down functionality, bookmarks, and simple page navigation. This will allow stakeholders to analyse critical indicators and derive actionable insights that can improve revenue growth and deepen customer understanding.