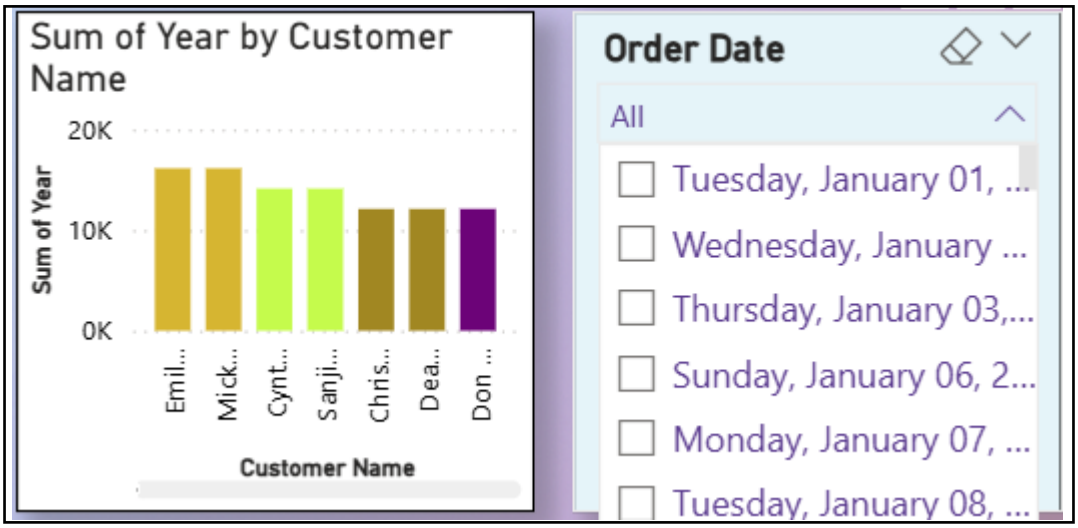
Task 4 – Power Query Data Transformations and Visualizations

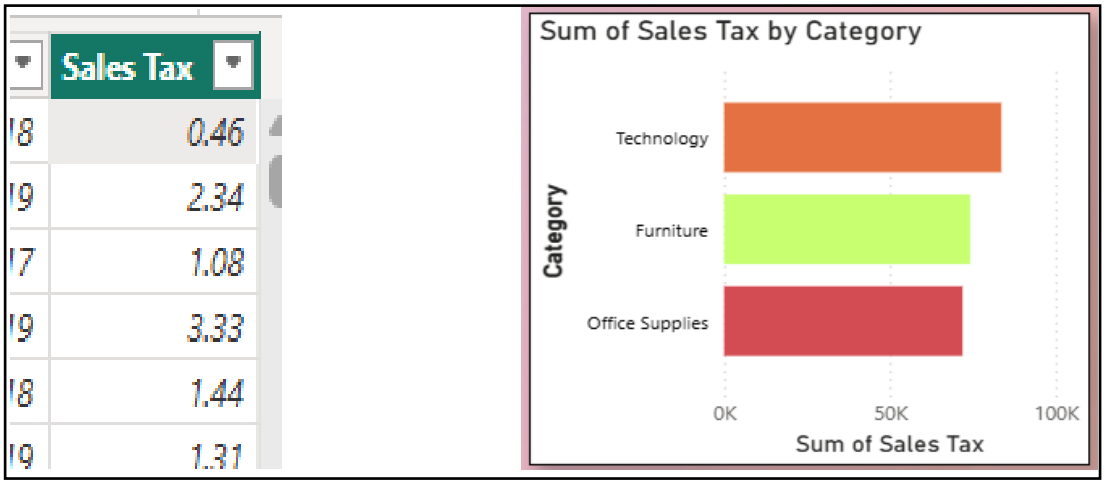
1. Use Power Query to filter orders with Order Date in 2019.
   a. Showing total sales for filtered orders.

Ans: Filtered dataset in Power Query to include only orders from 2019. Visualized total sales for this period using a Column Chart with Slicer to analyze the yearly sales performance.



2. Add a column in Power Query for sales tax (10% of Sales). a. Create a chart showing total sales tax by product category.

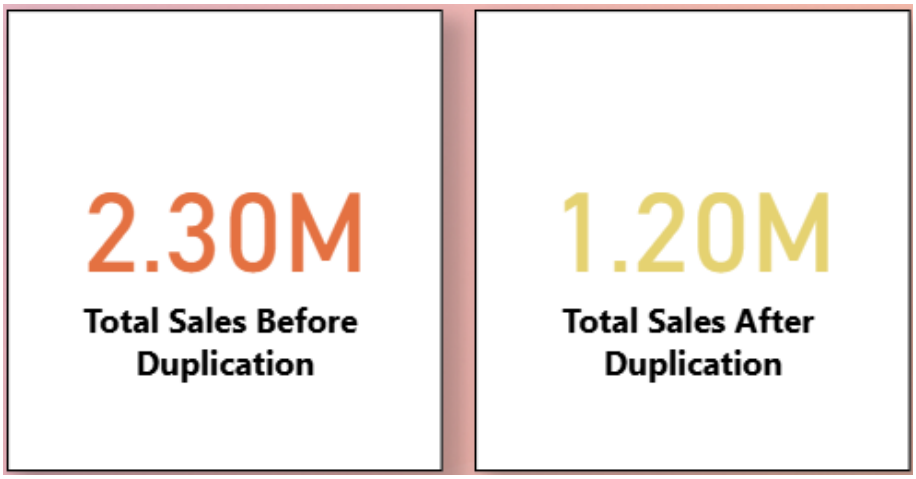
Ans: Added a calculated column 'Sales Tax' as 10% of Sales in Power Query. Created a bar chart to display total sales tax by product category aiding financial analysis.



3. Remove duplicate orders based on Order ID in Power Query.

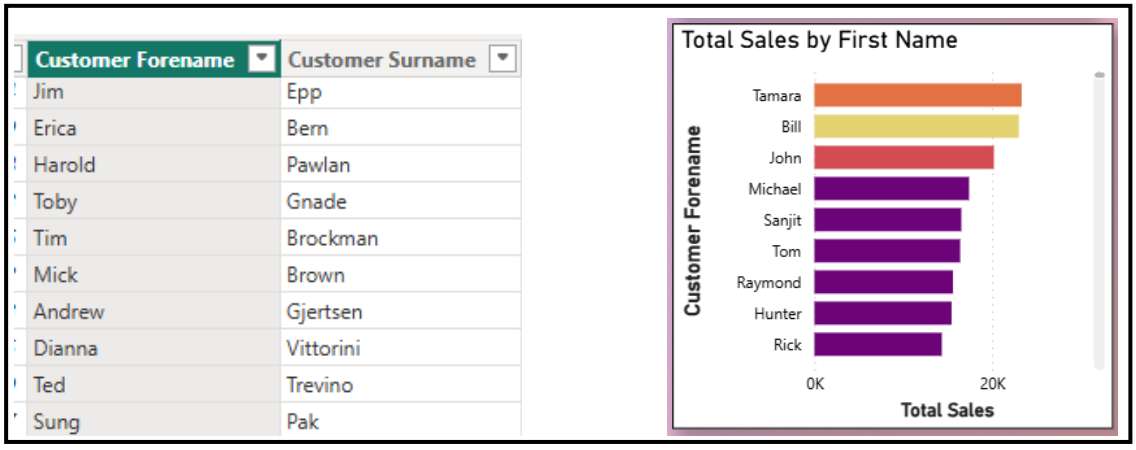
a. Create a chart showing total sales before and after removing duplicates.

Ans: Duplicate Order IDs were removed in Power Query to ensure the accuracy of sales reporting. I compared total sales before and after deduplication using a column chart. The reduction in sales after removing duplicates highlights the importance of data cleaning for reliable analysis.



4. Split Customer Name into First Name and Last Name in Power Query. a. Create chart showing total sales by first name.

Ans: Split Customer Name into First and Last Names to enable detailed customer analysis. Visualized total sales by First Name grouping to identify key customer segments.

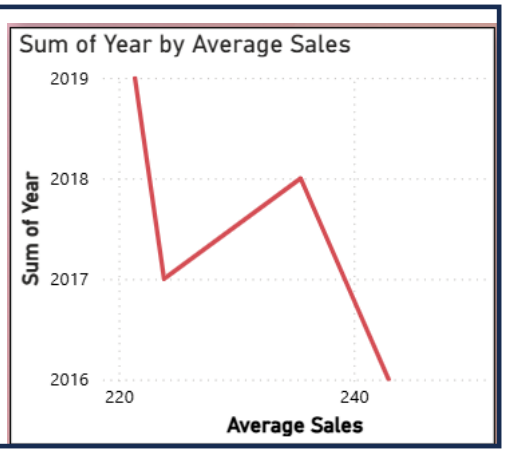


Customer Forename	Customer Surname
Jim	Epp
Erica	Bern
Harold	Pawlan
Toby	Gnade
Tim	Brockman
Mick	Brown
Andrew	Gjertsen
Dianna	Vittorini
Ted	Trevino
Sung	Pak

5. Group orders by year in Power Query and calculate average sales. a. Create a Line chart showing average sales by year.

Ans: In Power Query, I extracted the year from Order Date, grouped the data by year, and calculated the average sales for each year. I then visualized the result with a line chart in Power BI to reveal the trend in average sales over time.

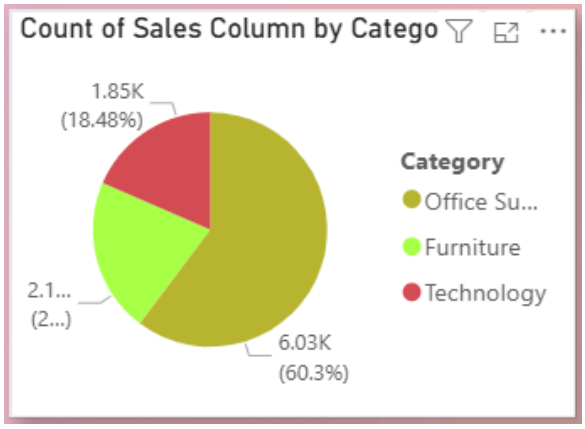
Year	Average Sales
2018	235.49
2019	221.38
2016	242.97
2017	223.85



6. Create a custom column in Power Query for sales category (e.g., "High" for Sales > 100, "Low" otherwise).

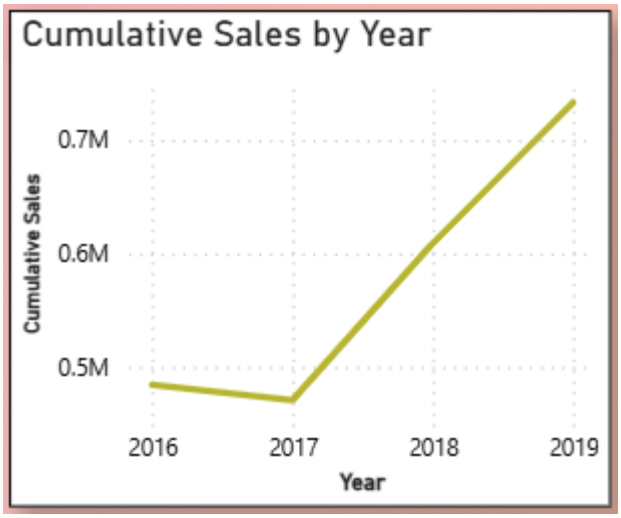
a. Create a Pie chart showing the distribution of sales categories.

Ans: Added a Sales Category column classifying transactions into 'High' or 'Low' based on sales value. Pie chart depicts the proportion of each category facilitating sales segmentation.



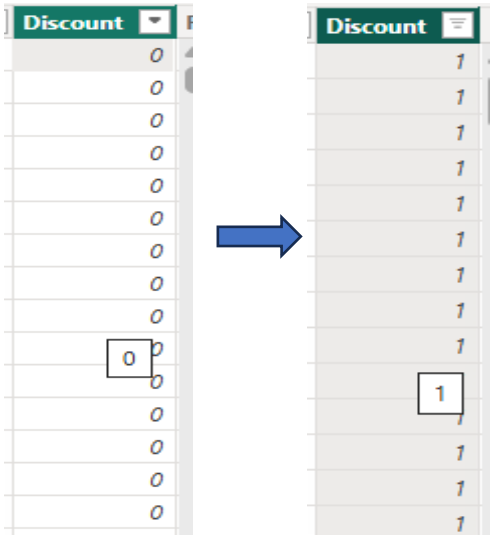
7. Create a Line chart showing running total of sales over time.

Ans: Implemented a cumulative sales measure to visualize running total sales over time. The line chart reveals overall sales growth trajectory.



8. Filter orders with a discount greater than 0 in Power Query.

Ans: Filtered dataset in Power Query to focus on sales orders with discounts applied, enabling targeted profitability analysis.



9. Create a chart showing total sales for orders with and without discounts.

Ans: I created a 'DiscountFlag' column using DAX to separate orders with and without discounts. Then I plotted total sales for each group in a visual to analyze how discounts affect revenue.