BHARATIYA VIDYA BHAVAN'S
SARDAR PATEL INSTITUTE OF TECHNOLOGY
(Empowered Autonomous Institute Affiliated to University of Mumbai)
[Knowledge is Nectar]

Department of Computer Engineering

Advanced Data Visualization

UID	2022701010
Name	Hawaiza Siddiqui
Class and Batch	BE CSE DS – Batch K

Aim: Create basic charts using Power BI/Python on E-commerce Dataset. Plot bar charts, Pie charts, timeline, scatter plots for product wise and region wise sale. Write observations for each chart.

Description:

We are using the Supermarket Sales Dataset.

Attributes:

Invoice ID: Unique identifier for each sales transaction.

Branch: Location or branch of the store where the sale occurred.

City: City where the branch is located.

Customer type: Classification of the customer as either a member or normal.

Gender: Gender of the customer (Male/Female).

Product line: Category of the product sold.

Unit price: Price per unit of the product.

Quantity: Number of units sold.

Tax 5%: Amount of tax applied to the sale (5% of the total before tax).

Total: Total amount of the sale including tax.

Date: Date when the transaction occurred.

Time: Time when the transaction occurred.

Payment: Payment method used for the transaction (e.g., Ewallet, Cash, Credit card).

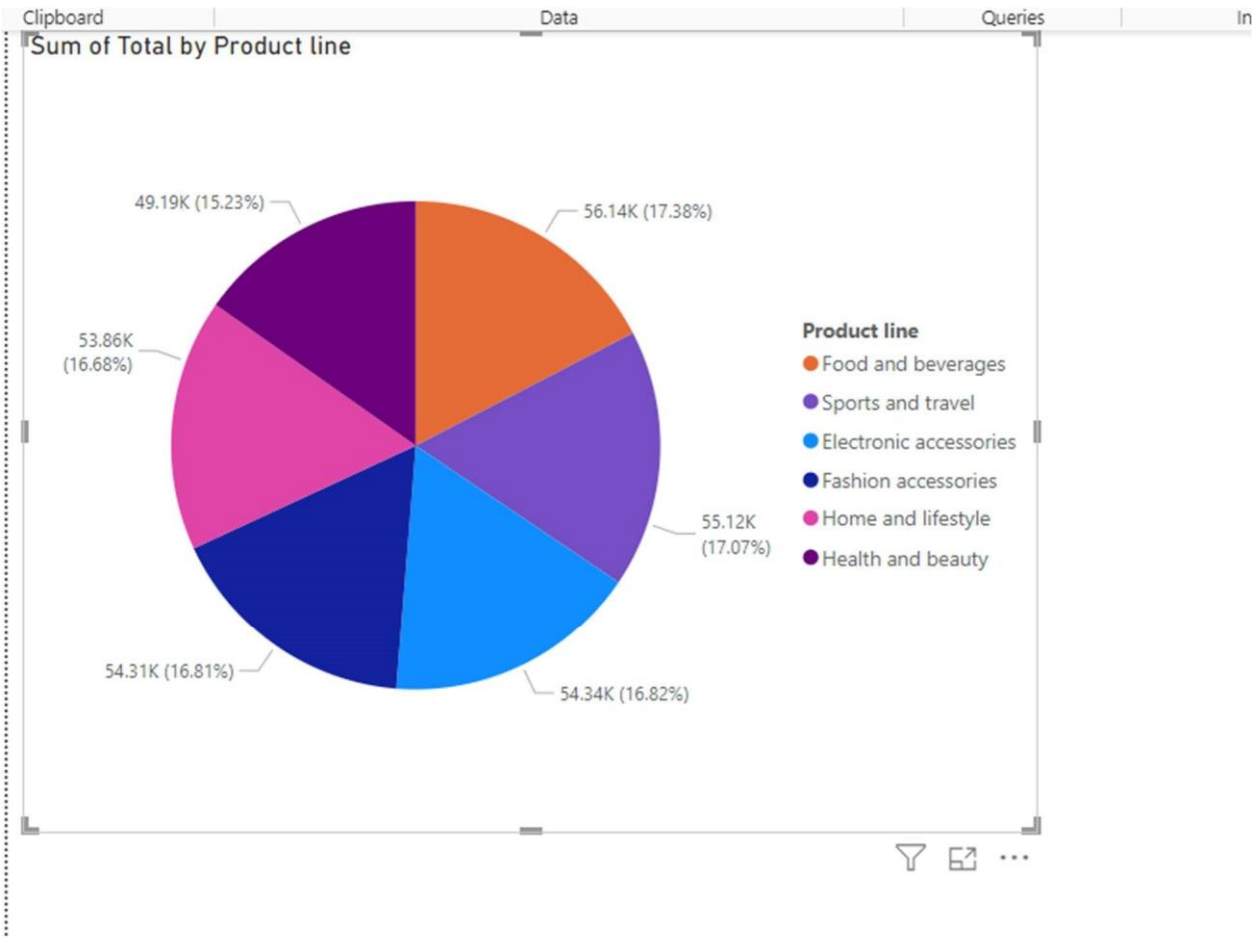
cogs: Cost of goods sold, representing the direct costs attributable to the production of the goods sold.

gross margin percentage: Percentage indicating the portion of sales revenue remaining after deducting the cost of goods sold.

gross income: The profit made from the sale after subtracting the cost of goods sold, before tax and other expenses.

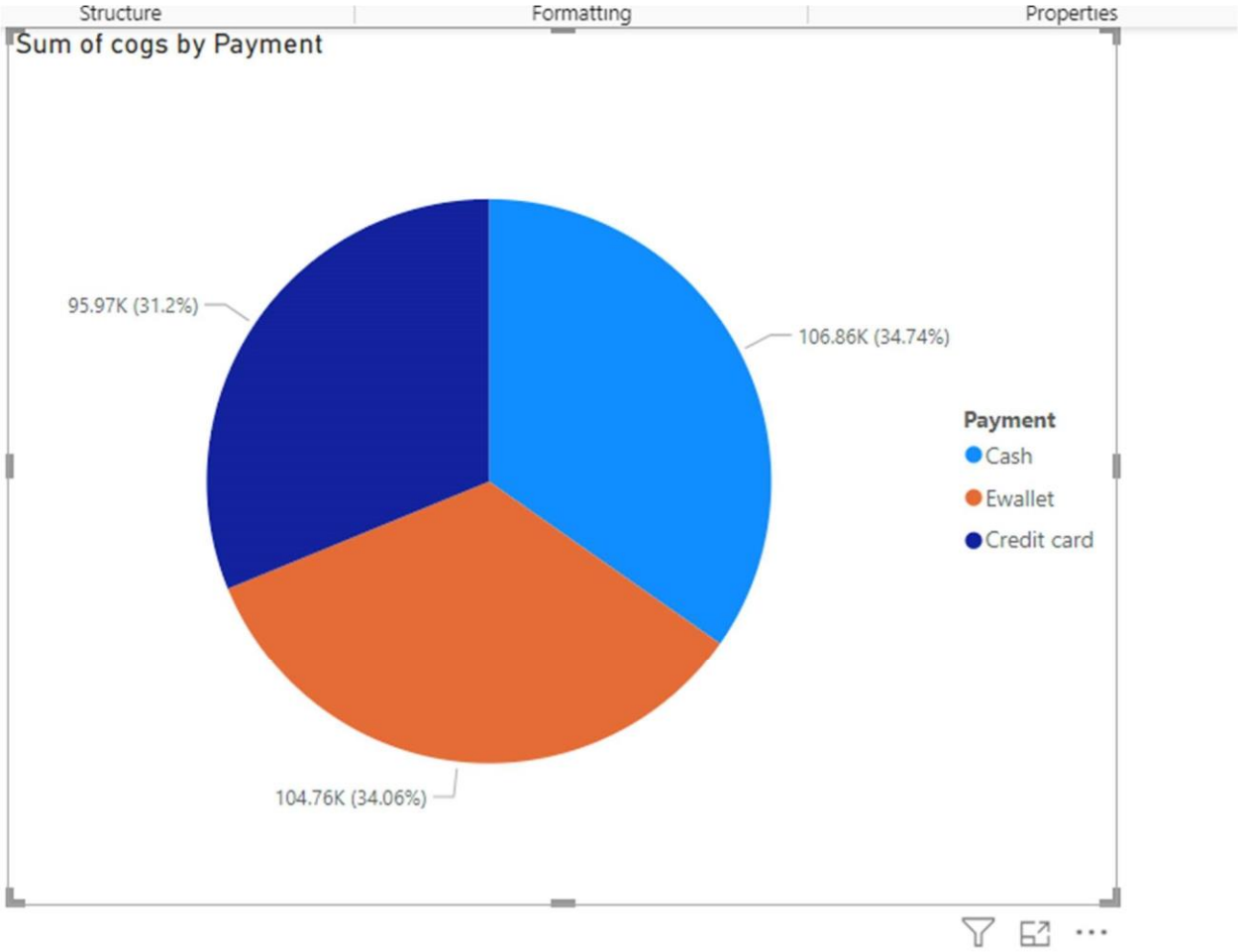
Rating: Customer's satisfaction rating for the transaction, often on a scale from 1 to 10.

Pie Chart (Total sales of each product line)



- The chart depicts the distribution of total sales across different product lines, with each slice representing a product line and its size indicating its proportion of total sales.
- The pie chart shows that Home and Lifestyle leads in sales, followed by Food and Beverages and Electronic Accessories, while Health and Beauty and Fashion Accessories have similar, steady sales.

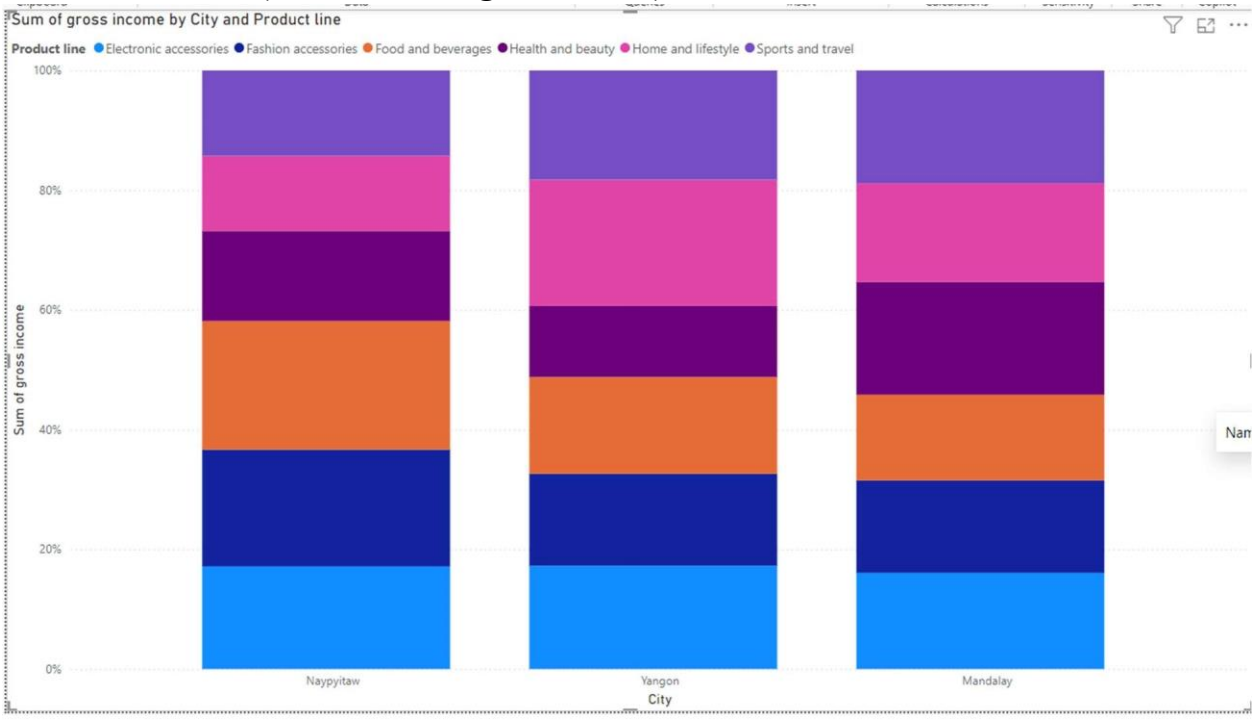
Pie chart (Sum of cost of goods sold by payment)



 The pie chart shows the distribution of COGS (Cost of Goods Sold) across different payment methods.

- Ewallet is the most popular payment method, followed by Cash and Credit Card.

Stacked Bar Chart (Distribution of gross income)



- The chart shows how gross income is distributed across different cities and product lines, highlighting which product lines are most profitable in each city.
- It also compares gross income among cities and assesses the importance of each product line to the overall income in each city.

Tree Map (Sum of Gross Income by Product Line and Gender)

- Distribution of gross income across different product lines and genders.
- The treemap highlights gender-based sales patterns, showing which product lines are favored by each gender.

Conclusion:

Hereby, I implemented basic charts on Power BI using the SuperMarket sales dataset.