Power BI

Shweta Ajay Shinde
Masters in Data Analytics, San Jose State University
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Instructor: Venkata Duvvuri
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Report on Product Data Analysis

1. Introduction

This report analyzes a dataset of different types of bikes, including their categories, subcategories, prices, weights, and other product details. The aim is to extract insights from the data to better understand the distribution of product categories, pricing trends, and regional information.

2. Data Set

From the dataset, we have below listed column we can use for Data Visualization.

- Product Category
- Product Subcategory
- Product Name
- Product Description
- Product Price
- Order Total
- Shipping Method

3. Monthly Sales Comparison for February and March 2023

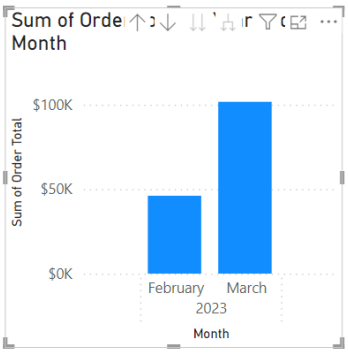
In Figure 1, a bar chart is used to show the **Sum of Order Total** for the months **February** and **March 2023**. The data is grouped by month using a **Date Hierarchy** feature, which breaks down the date by year, quarter, month, or day. This is useful for analyzing trends over time.

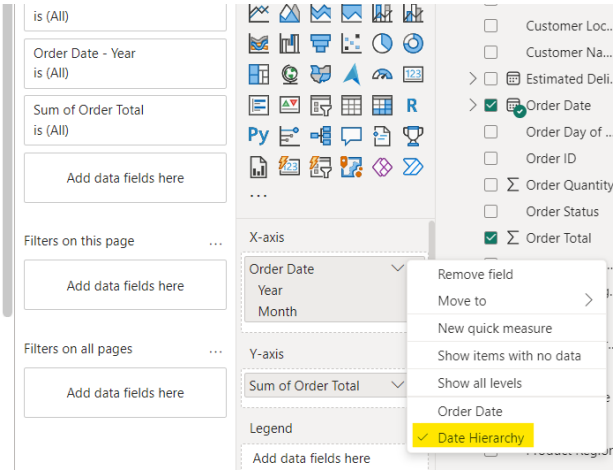
The "**Date Hierarchy**" option is selected in the X-axis field, which automatically arranges the data by month and year. This allows for a clear comparison of the total orders for each month.

Insights:

- March had higher total orders than February.

Figure 1:
Sum of Order Total per month





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4. Sales Distribution by Product Category

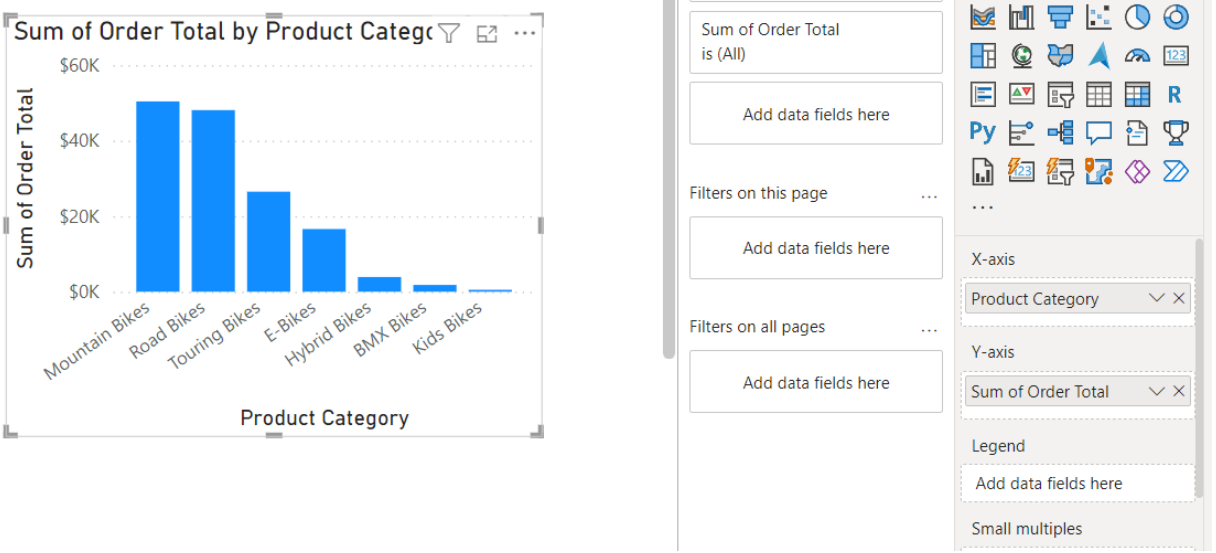
This bar chart in Figure 2 displays the **Sum of Order Total** for different **Product Categories** (e.g., Mountain Bikes, Road Bikes, E-Bikes, etc.).

The X-axis represents the **Product Categories**, and the Y-axis shows the **Sum of Order Total** (the total sales for each category). The data is grouped by categories to show the sales contribution of each product type. The larger the bar, the higher the sales for that category.

Insight

- Mountain Bikes, Road Bikes, and Touring Bikes lead in sales, indicating these categories are the most popular.

Figure 2:
Distribution by Product



5. Sales Distribution by Week

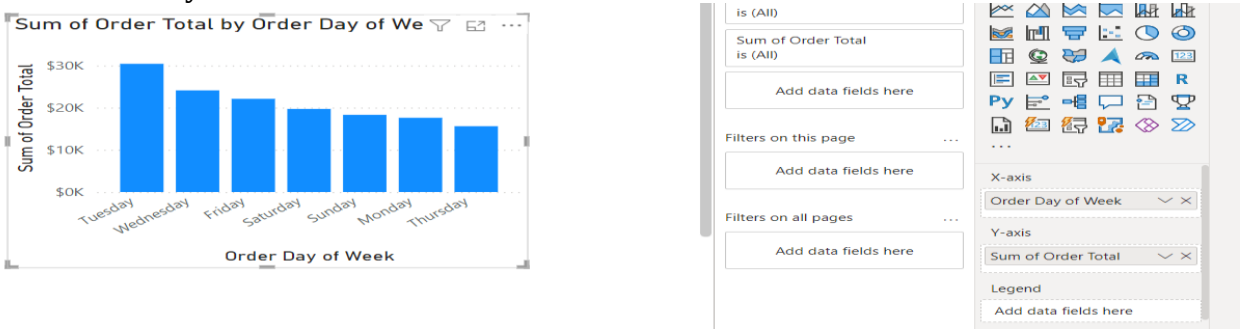
This bar chart in Figure 3 displays the **Sum of Order Total** for different **Over the Week**

The X-axis represents the **Order Day of week**, and the Y-axis shows the **Sum of Order Total** (the total sales for each category). The website can utilize a graph to identify which day receives the highest number of orders, helping optimize operations and marketing strategies. Analyzing this data visually allows for quick insights and informed decision-making.

Insight

- Tuesday is the day of the week where there are max order places.

Figure 3:
Distribution by Week



6.Sum of Product Price by Color:

In the Figure4, we see a horizontal bar chart that visualizes the **Sum of Product Price by Product Color**. The chart displays different colored bars corresponding to each product color, and each bar shows the total price for that specific color. The values are in Sum of the Product, and the colors in the chart correspond to the product colors.

Additionally In Figure 5, we see that the color formatting for the bars is customized to match the product colors themselves. For example, the bar for the blue product is colored blue, the red product is red, and so on. This creates an intuitive and visually clear representation of the data; we use the column Product Color in **if** where the color of the bar directly corresponds to the product color category. The website can utilize a graph to identify which color has the highest number of orders, which will help the, for decision-making.

Insights:

- Blue products have the highest number of sales followed by red , white and soon on.

Figure 4:
Price by Color

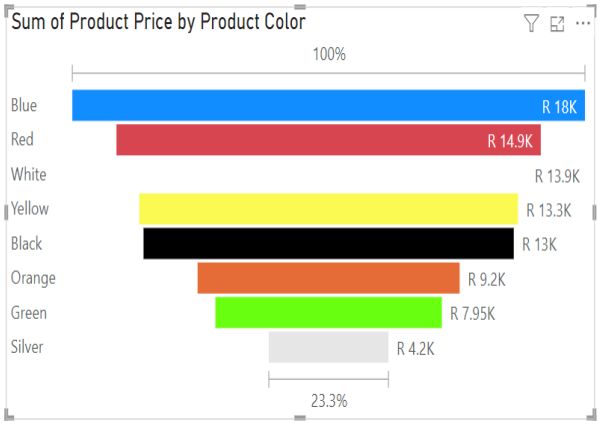
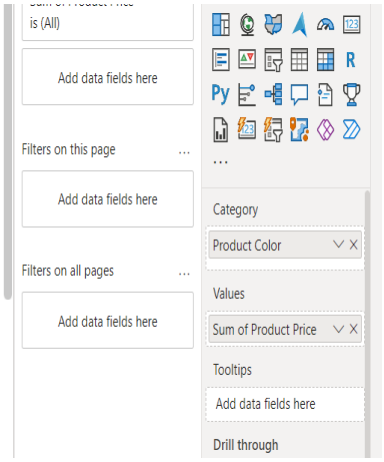
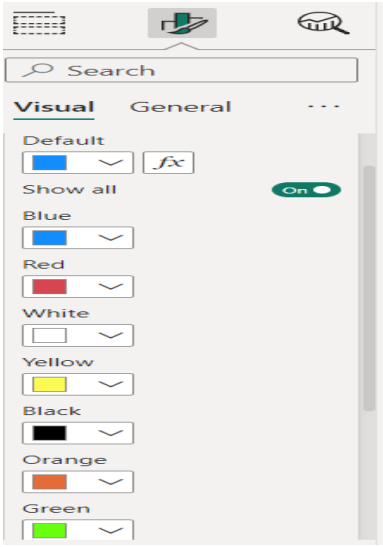


Figure 5:
Assign Colors





7.Product Stock Price.

This Scatter graph in Figure 6 displays the **Sum of Product Stock** for different **Product Categories** (e.g., Mountain Bikes, Road Bikes, E-Bikes, etc.).

The X-axis represents the **Product Categories**, and the Y-axis shows the **Sum of Product Stock**. The data is grouped by categories to show the stocks of each product type.

Insight

- Mountain Bikes, Road Bikes, and Touring Bikes lead in sales, indicating these categories are the most popular as it has high number of stocks.

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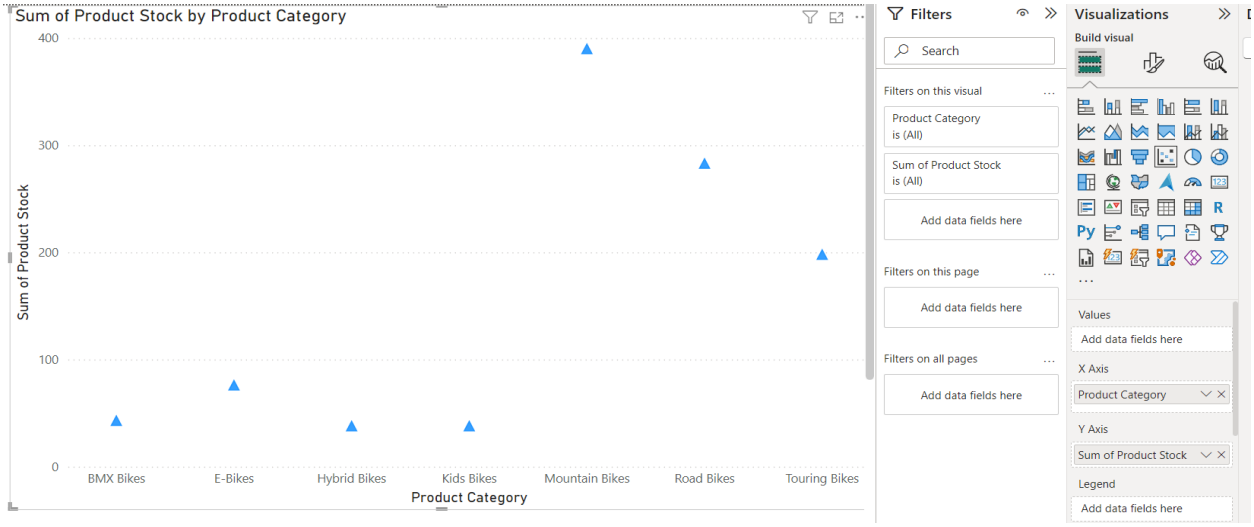
Figure 6:
Stock Price.



8. Product Weights and Shipping Methods

Product weight is another key factor. A line/area plot is used to analyze the relationship between weight and shipping method.

In Figure7, the X-axis represents the **Shipping Method**, and the Y-axis shows the **Sum of Product Weight**. The data is Sum by Product Weight to show the shipping method with respect to weight.

Insight:

- Heavier bikes it is shipped by air.

Figure 7:
Product Weight

9. Conclusion

The data highlights the diversity of bike products, showing that heavier bikes tend to be more expensive. Mountain, Road, and Touring Bikes lead in sales, reflecting their popularity due to high stock levels. Blue products have the highest sales, followed by red and white. Additionally, Tuesday is the peak day for orders. This analysis provides valuable insights into product preferences and sales trends, helping to better align inventory and marketing strategies.

References

Shweta S (2024). *Sales performance analysis* [Power BI file]. Retrieved from **https://app.powerbi.com/groups/me/reports/fca273f0-0b64-46e7-a294-872a1c9b867e/82a510421e9308a454ed?experience=power-bi**