Bike Sales Analysis

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Executive Summary

This report summarizes the findings and final deliverables for the bike sales project.

The project involved data collection, cleaning, analysis, and visualization using tools such as Excel and Power BI.

Link to Published Dashboard

https://app.powerbi.com/links/jTY3r8mRbG?ctid=c986676f-9b39-4d08-b4f8-a668e0e8c6a5&pbi_source=linkShare&bookmarkGuid=e53c7782-58d4-4a82-b173-c0fc03b8e8d9



Executive Summary

- **Background Information**

Our motivation for this project was to help the bike company increase its sales revenue by identifying sales trends and top-performing product categories. This will enable the company to optimize its inventory, improve marketing strategies, and enhance customer satisfaction.

- **Problem Statement**

How can we offer and promote more in-demand bike models to our customer segments ensuring they are satisfied and loyal to our brand?



Methodology

- **Data Collection**

The data for this project was collected from Kaggle.com
https://www.kaggle.com/datasets/efoceeworld/bikes-orderliness/data
The dataset was in CSV format and provided key details for analyzing sales trends.

- **Data Cleaning**

Data cleaning was conducted to ensure that the dataset was ready for analysis. The following steps were taken:
- Duplicates were removed.
- New columns were included for example (Total revenue).
- The cleaned data was stored in a new Excel sheet for further processing.

- **Data Analysis**

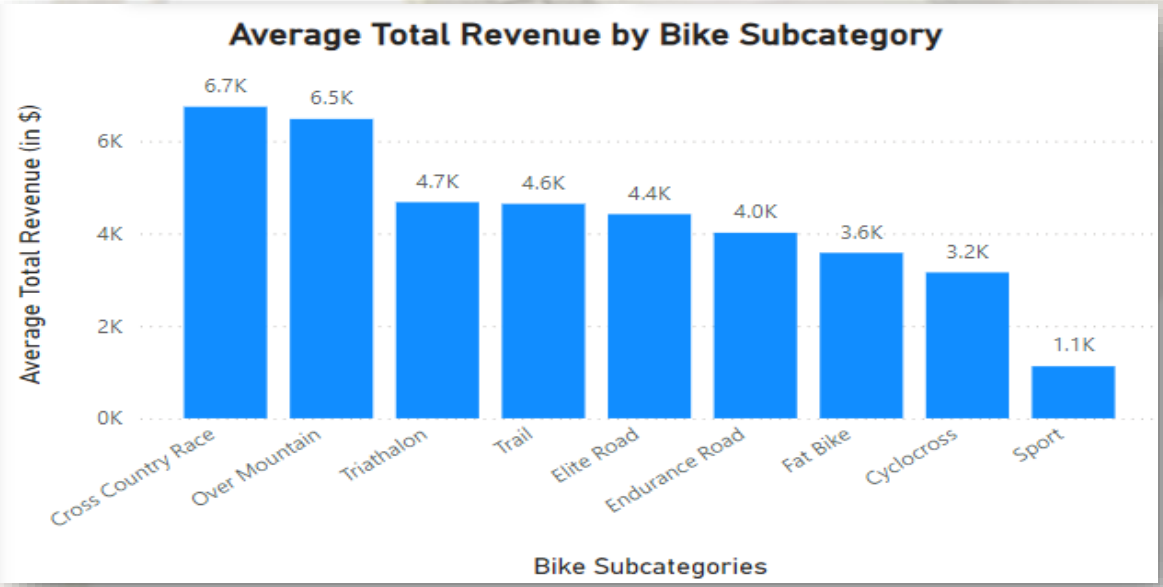
Power BI was used to create dynamic visualizations of the data and charts like bar charts and line graphs were used to identify trends and patterns.



Findings

Top-performing product categories in terms of sales revenue

- Cross Country Race and Over Mountain generate the highest average revenue.
- Subcategories with the highest sales quantity are Elite Road **(4,483 units),** Cross Country Race **(3,683 units),** and Endurance Road (3,322 units)
- Average price across all products is **4.54K**
- Cross Country Race and Over Mountain lead over 5,000 in terms of average pricing by subcategories.



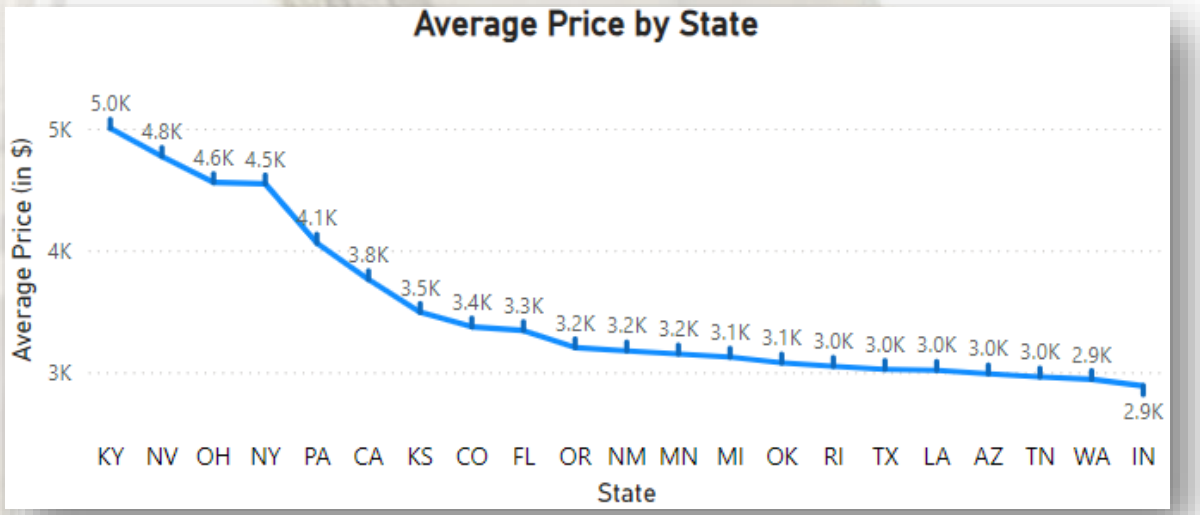
Total Quantity Sold by Bike Subcategory

Subcategories	Total quantity
Elite Road	4483
Cross Country Race	3683
Endurance Road	3322
Trail	2569
Sport	2177
Over Mountain	1514
Triathalon	1149
Cyclocross	901
Fat Bike	374
Total	**20172**

Findings

Regions with the highest sales for each product category

- States like Kansas, Colorado, and New York have the highest sales quantities.
- The average price per state highlights Kentucky as the state with the highest average price at **5,000,** followed by Nevada (4.8K) and Ohio (4.6K).
- Indiana and Washington show lower average prices, both with **2.9K**
- Elite Road, Cross Country Race, and Endurance Road are the subcategories with the highest total quantities sold.



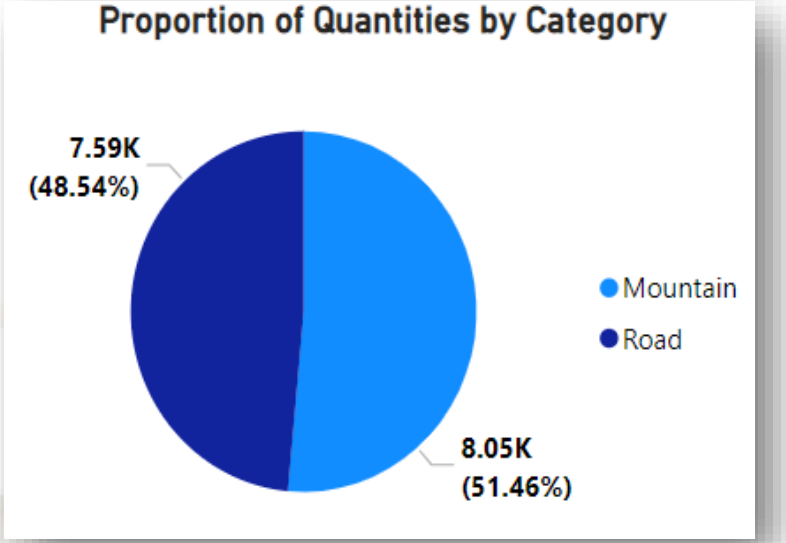
Count of Quantity by Bike Subcategory

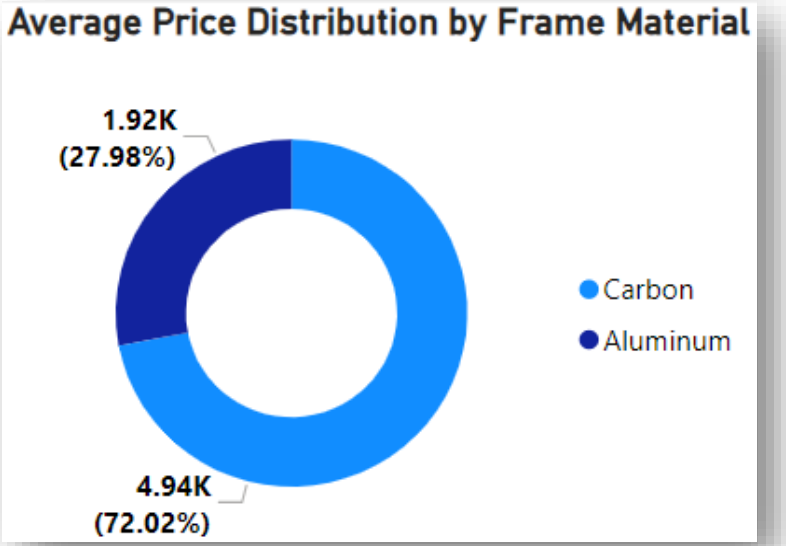
Count of quantity	Subcategories
3472	Elite Road
2852	Cross Country Race
2586	Endurance Road
2020	Trail
1716	Sport
1169	Over Mountain
867	Triathalon
668	Cyclocross
294	Fat Bike
15644	

Findings

Sales trends over time for different categories

- Notable peaks in sales during 2013 and 2015,especially in Mountain category.
- The total quantity of products sold is almost evenly distributed, with Mountain accounting for 48.54% and Road for 51.46%.
- The preference for frame materials is evident, with Carbon frames dominating sales at 72.02%, compared to Aluminum frames at 27.98%.





CONCLUSIONS AND RECOMMENDATIONS

1.Top-Performing Product Categories: The subcategories Cross Country Race, Over Mountain, and Elite Road have emerged as key drivers of revenue and sales volume.

2.Regional Sales Insights: States like Kansas, Colorado, and New York are the most active markets, with the highest sales quantities. Kentucky, Nevada, and Ohio lead in terms of average pricing.

3.Sales Trends Over Time: growth periods in 2013 and 2015, particularly for the Mountain category. The preference for high-end materials, such as Carbon frames.



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