ANALYZING LAPTOP SALES

Mitul Makwana
Subject: Data Architecture
Mentor: Dr.Junaid Qazi

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Overview:

In this project, I utilized an open-source dataset from Kaggle, which provides detailed information on laptops from brands like HP, Dell, Apple, and Lenovo, including specifications such as screen size, RAM, CPU, GPU, and price. By analyzing this data, I explored how various features influence laptop pricing and identified trends across different brands. Using Power BI, I created visualizations to uncover key insights, highlighting the impact of specifications on prices and offering valuable data-driven conclusions for consumers and industry professionals. This project underscores the importance of open-source data in understanding market dynamics and making informed decisions.

Purpose and Goals

The goal of this analysis was to:

1. Explore how different specifications influence laptop prices.

2. Compare the pricing strategies of major laptop brands.

3. Identify laptops that offer the best value for money based on their features.

broader objective was to provide data driven insights that could assist consumers and industry professionals in making informed decisions about laptop purchases.

Key Questions

During the analysis, I focused on answering the following key questions:

1. Which specifications impact laptop prices the most?

2. How do specific features like screen size, RAM, and GPU influence the price?

3. How do brands compare in terms of pricing and features?

Metrics and KPIs

To measure progress and track the performance of various laptops, I defined the following key performance indicators (KPIs):

1. Average Price per Brand: Measures how pricing varies across different brands.

2. Price per Inch of Screen: Assesses the relationship between screen size and pricing.

3. Price per GB of RAM: Tracks how the amount of RAM affects laptop prices.

4. Impact of GPU/CPU on Price: Evaluates the influence of different CPU and GPU combinations on price.

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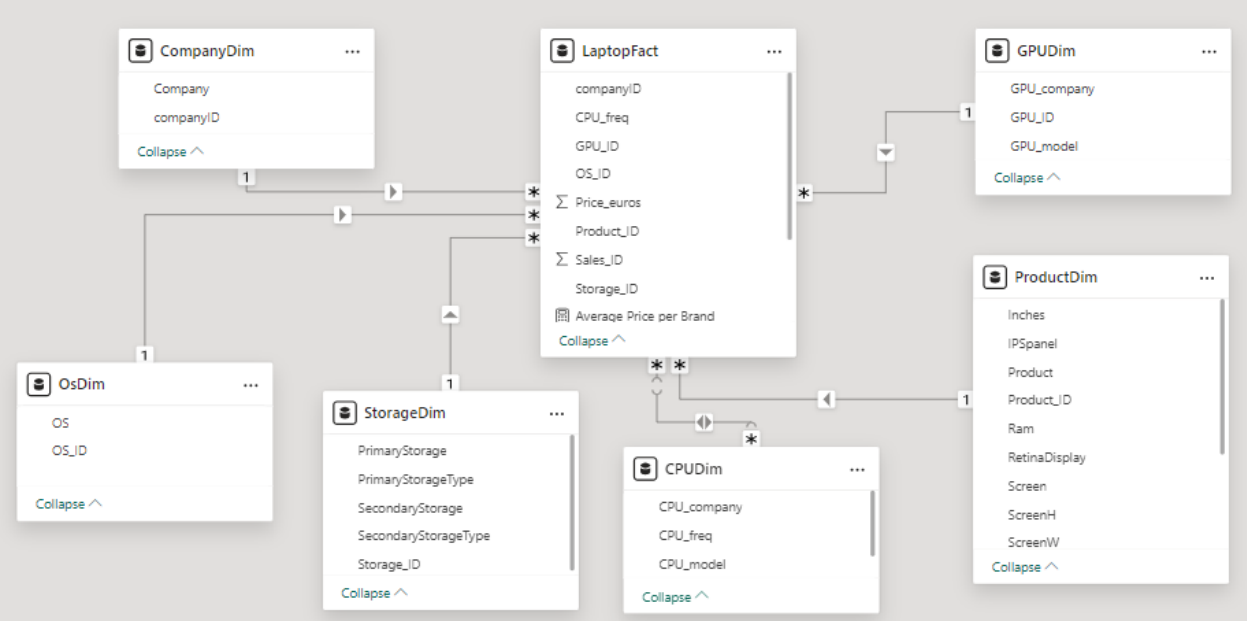
5. Average weight per Brand: Measures how the weight of a laptop varies across brands.

Data Model

The dataset was modeled to reflect key attributes of laptops, including brand, screen size, RAM, CPU, GPU, and price. This structure allowed us to perform targeted analysis and create visualizations that highlight the relationships between these specifications and the prices of laptops.



To visualize the data:

Bar Charts: Used to compare average prices across brands and show the distribution of prices.

Pie Charts: Displayed the market share of major brands like Apple, HP, and Lenovo.

Summary Boxes: Showcased total laptops, average price, and average price by category for an overview.

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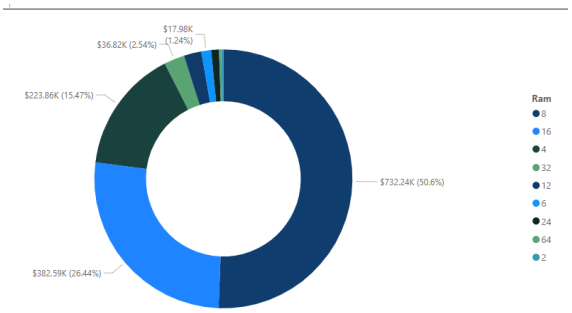
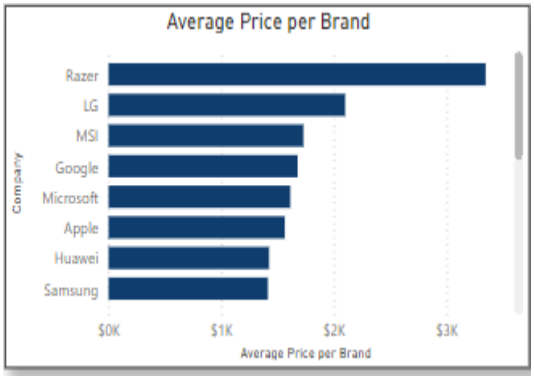
Results

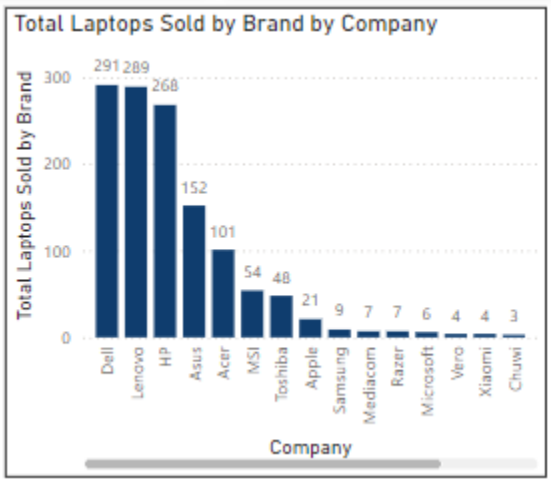
Our analysis revealed several key insights:



Specifications like RAM, storage, and GPU have a significant impact on laptop prices. Laptops with higher RAM and better GPUs tend to be priced higher.



Brand matters: Certain brands like Apple and Dell command premium prices, while others like Lenovo offer more budget friendly options.



Screen size: Larger screens generally result in higher prices, but the impact varies by brand.

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The visualizations I created, including sales performance and price distribution charts, provided a clear overview of the market dynamics.

Conclusion

In conclusion, this project helped me understand the factors influencing laptop pricing. I found that RAM, storage, GPU, and brand are the primary drivers of price variations. The visualizations allow me to communicate these insights clearly, highlighting the value of data driven analysis in understanding complex markets. The project also underscored the importance of specifications when choosing a laptop, whether for personal use or business.

Through Power BI, I transformed raw data into actionable insights that can inform purchase decisions and market strategies.

Appendix:

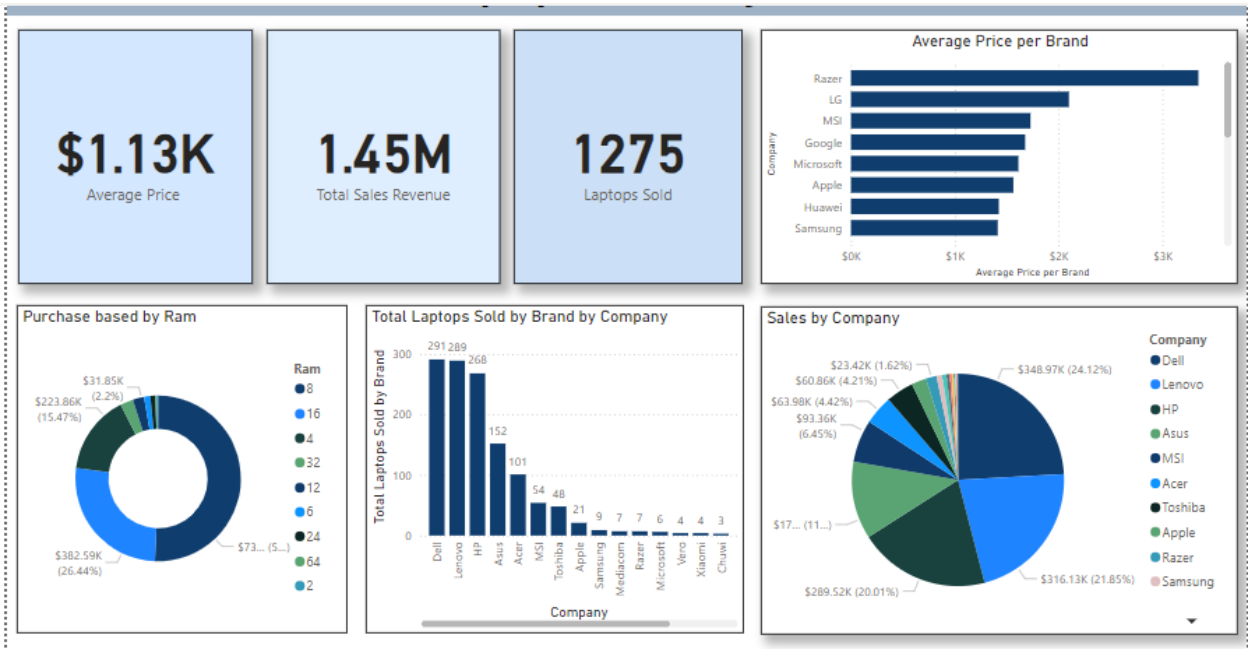

Fig 1: Picture shows PowerBI Dashboard for the Laptop Sales Analysis.

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