

Amazon Electronics Sales & Product Insights Project Report

Project Overview

This project focuses on analyzing the Amazon Electronics Products Sales Dataset to gain meaningful insights into product performance, pricing strategies, and customer satisfaction. The cleaned and analyzed data is visualized using Python and Tableau, targeting key metrics relevant to product management.

Objectives

- Understand sales performance across product categories.
- Analyze pricing strategy and discount impact.
- Evaluate customer satisfaction through ratings and reviews.
- Identify top-performing and underperforming products.

Data Cleaning & Preparation

- **Handled Missing Values:** Removed or imputed missing data.
- **Removed Duplicates:** Ensured data integrity by eliminating duplicate product entries.
- **Data Transformation:** Converted data types and created calculated fields for analysis.
- **Filtered Data:** Focused on relevant fields like product name, category, price, discount, rating, and review count.

Key Metrics & KPIs

1. **Sales Performance Analysis:**
 - Top 10 Most Reviewed Products
 - Total Reviews by Category
2. **Pricing Strategy Analysis:**
 - Average Price by Category
 - Top 5 Products with Highest Discounts
 - Discount Percentage Impact on Reviews
3. **Customer Satisfaction Metrics:**
 - Average Rating by Category
 - Top 5 Highest Rated Products
 - High Review, Low Rating Products
4. **Category-Level Insights:**
 - Value-for-Money Categories
 - Combined View of Price, Rating, and Discount

Visualizations in Python

- **Bar Plots:** Category-level analysis of price, rating, and discounts.
- **Scatter Plots:** Relationship between discount percentage and reviews.
- **Pie Charts:** Proportion of value-for-money categories.

Tableau Dashboard Layout

- **Sheets:** Separate sheets for individual KPIs and metrics.
- **Combined Dashboard:** Interactive view with filters and highlights.
- **Styling:** Consistent color themes and clear labeling.
- **Interactivity:** Drill-down capabilities and hover tooltips.

Insights & Recommendations

- **Top Products:** High-rated and well-reviewed products can be promoted more.
- **Pricing Strategy:** Products with high discounts but low ratings need quality checks.
- **Customer Preferences:** Categories with high ratings and reviews indicate popular segments.
- **Value-for-Money:** Balancing price, discount, and satisfaction ensures better product positioning.

Conclusion

This project provides a data-driven approach to understanding product performance on Amazon's electronics category. The insights generated are valuable for making informed product management and pricing decisions.

