📝 **Amazon Product Review Analysis**

Data-Driven Insights into Pricing, Ratings, and Customer Engagement on Amazon

📌 **Overview**

This analysis investigates a dataset containing product listings and customer review metrics from Amazon. The goal is to derive actionable insights around product pricing strategies, category performance, customer feedback patterns, and potential revenue contributions. The entire analysis was conducted using Excel, leveraging PivotTables, calculated fields, and visual charts.

🔍 **Analysis Focus Areas**

1. **Discount Trends**: Identifying the average discount percentage across product categories.

2. **Category Performance**: Exploring the distribution of products, reviews, and ratings by category.

3. **Pricing Comparisons**: Evaluating the difference between actual prices and discounted prices.

4. **Customer Engagement**: Analyzing the number of reviews and rating distributions.

5. **Revenue Estimation**: Estimating potential revenue using price and review count.

6. **Price Band Segmentation**: Grouping products into pricing tiers to understand market spread.

7. **Rating vs. Discount Relationship**: Investigating if product discounts influence customer ratings.

8. **High-Impact Products**: Identifying top-performing products by combined rating and review volume.

💡 **Key Insights**

- **Top Discount Categories**: Categories like Books and Home Accessories tend to offer the highest average discounts.

- **Most Populated Categories**: Electronics and Accessories dominate product counts and total reviews.

- **Discount ≠ High Ratings**: There is little to no direct correlation between higher discounts and better product ratings.

- **Revenue Concentration**: A small number of products contribute a large portion of the estimated revenue, particularly those with both high ratings and high review volumes.

- **Pricing Spread**: The majority of products fall into the ₹200–₹500 range, with fewer premium-priced items.

- **Rating Distribution**: Most products are clustered around 3.5 to 4.5-star ratings, with very few extremes.

- **Non-Compliant Pricing**: A notable number of products are priced below ₹200, possibly affecting perceived quality.

- **Top Performers**: The top 5 products (by rating × review count) represent strong candidates for promotion or feature placement.

📊 Deliverables

- A structured Excel workbook containing:
    - Cleaned and preprocessed data
    - PivotTables for all 14 analytical tasks
    - Additional calculated columns (e.g., discount_percent, potential_revenue, price_range)
- A custom Excel dashboard summarizing key findings with visuals
- A PDF report interpreting the insights for a non-technical audience

🛠️ Tools Used

- **Microsoft Excel**
    - Data cleaning
    - PivotTables & calculated fields
    - Conditional formatting and charts
- **PowerPoint/PDF**
    - Insight reporting