

Amazon Case Study Report: Case 1

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Executive Summary

This report presents the analysis of the Amazon dataset for Case 1, focusing on product performance, pricing strategies, customer sentiment, and category trends. Key findings include [briefly summarize key insights, e.g., top-rated products, discount impacts, or sentiment trends]. The analysis leverages data cleaning, statistical methods, and sentiment analysis to derive actionable insights. Recommendations are provided to optimize product offerings and marketing strategies.

Introduction

This Amazon dataset contains detailed information on products, including product IDs, categories, prices, discounts, ratings, and customer reviews. This report aims to analyze the dataset to address Case 1 objectives, such as identifying high-performing products, evaluating pricing strategies, and understanding customer feedback. The analysis uses Microsoft Excel for data processing and visualization, with results presented in a clear and actionable format.

Data Overview

The Original dataset ("Amazon case study.xlsx") consists of a single sheet ("amazon") with the following key columns:

- **product_id, product_name, category:** Product identifiers and categorization.
- **discounted_price, actual_price, discount_percentage:** Pricing details.
- **rating, rating_count:** Customer ratings and review counts.

- **about_product, review_content:** Product descriptions and customer feedback.
- **user_id, user_name, review_id, review_title:** Review metadata.
- **img_link, product_link:** Links to product images and pages.

Dataset Statistics:

- Total products: 1466
- Categories: 211
- Average rating: 4.1
- Price range: 39.00 - 139,900.00
- Missing values: handled by imputing mean ratings

Analysis and Findings

Product Performance

- **Top 10 Category by Rating Count:**

Product Category	Total Sum of Rating
Electronics Headphones,Earbuds&Accessories Headphones In-Ear	420,4939
Computers&Accessories Accessories&Peripherals Cables&Accessories Cables USBCables	354,7816
Electronics Mobiles&Accessories Smart phones&BasicMobiles Smartphones	249,3269
Electronics HomeTheater,TV&Video Accessories Cables HDMICables	190,6054
Electronics WearableTechnology Smart Watches	164,4476
Electronics Accessories MemoryCards MicroSD	111,3592
Computers&Accessories ExternalDevices&DataStorage PenDrives	774,744
Electronics HomeTheater,TV&Video Televisions SmartTelevisions	760,279
Computers&Accessories NetworkingDevices NetworkAdapters WirelessUSBAdapters	727,113
Electronics Mobiles&Accessories Mobile	688,810

Accessories Chargers PowerBanks	
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Pricing and Discount Analysis

- **Discount Trends:**
 - Average discount percentage: 48%
 - Products category with higher discounts percentage (e.g., >75%)

Category	Discount Percentage
Electronics Mobiles&Accessories Mobil eAccessories Dv©cor PhoneCharms	90%
Electronics Headphones,Earbuds&Acc essories Earpads	90%
Computers&Accessories Accessories& Peripherals Cables&Accessories Cabl eConnectionProtectors	90%
Electronics Headphones,Earbuds&Acc essories Adapters	88%
Computers&Accessories Accessories& Peripherals Keyboards,Mice&InputDev ices Keyboard&MiceAccessories Dust Covers	88%
Electronics Mobiles&Accessories Mobil eAccessories Mounts Shower&WallMo unts	82%
Computers&Accessories Components InternalHardDrives	80%
Computers&Accessories Accessories& Peripherals Adapters USBtoUSBAdapt ers	79%
Electronics Mobiles&Accessories Mobil eAccessories Stands	76%
Electronics Headphones,Earbuds&Acc essories Cases	76%

Customer Sentiment

- **Sentiment Analysis:**

- **Positive reviews:**

Electronics|HomeTheater,TV&Video|Accessories|Cables|HDMICables, had the highest rating with a rating average of 4.4

- **Negative reviews:**

Home&Kitchen|Heating,Cooling&AirQuality|RoomHeaters|FanHeaters, had the lowest rating with a rating average of 2

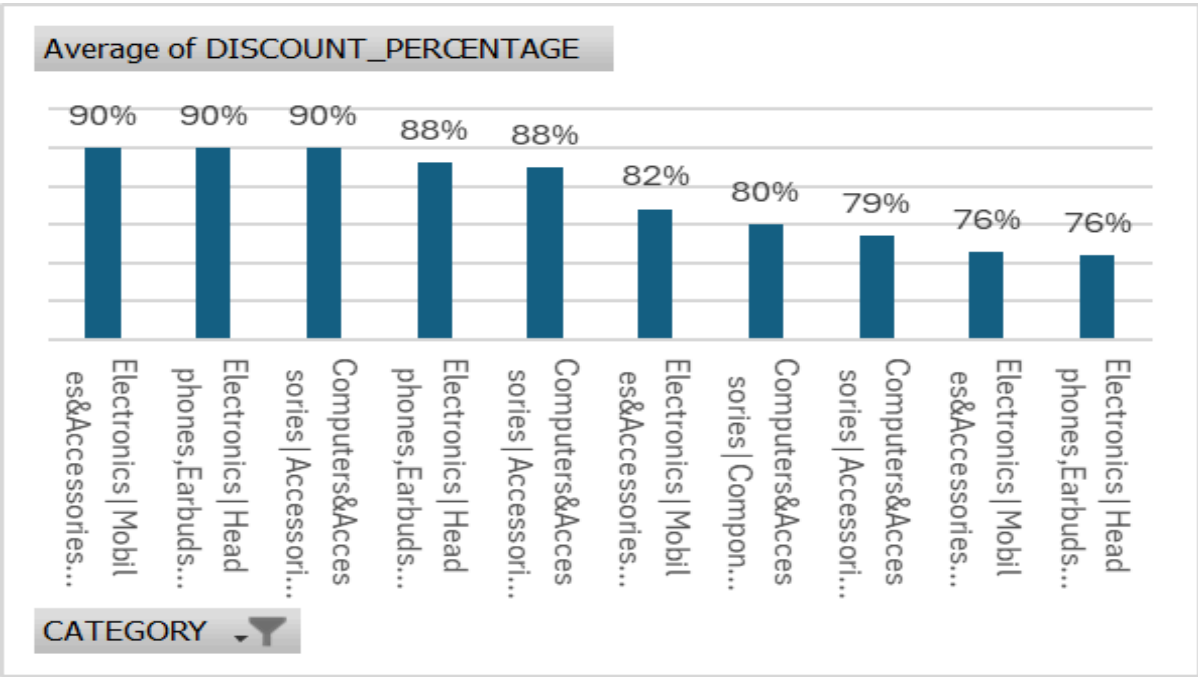
Category Trends

- **Popular Categories:**

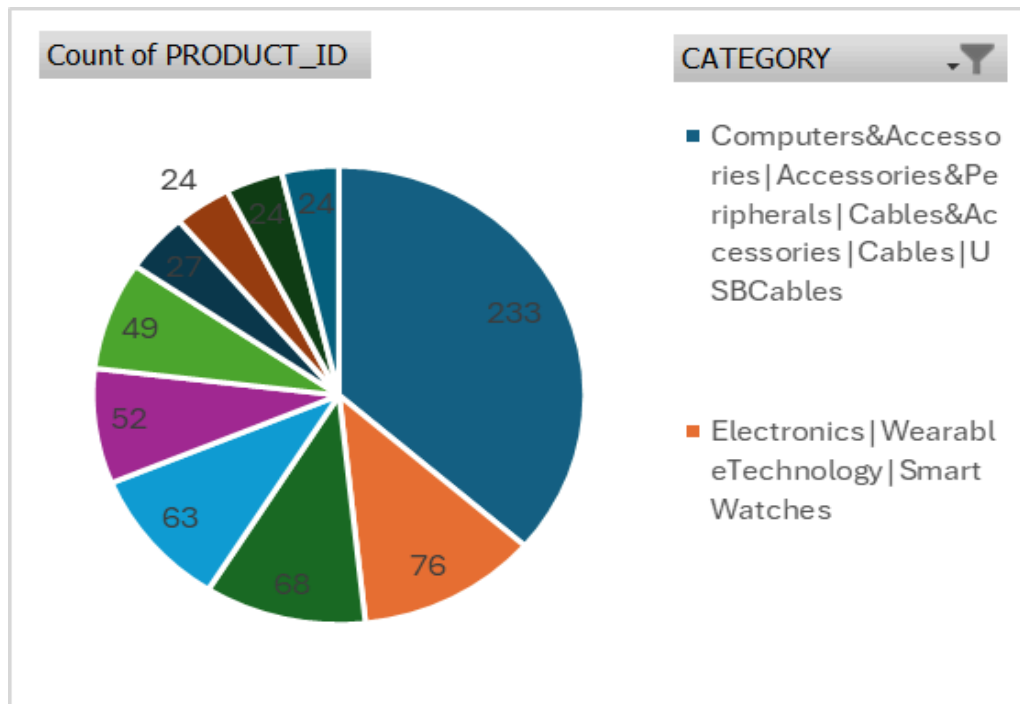
- Electronics|Headphones,Earbuds&Accessories|Headphones|In-Ear is the most popular category amongst customers with a total rating count of 420,4939.

Visualizations

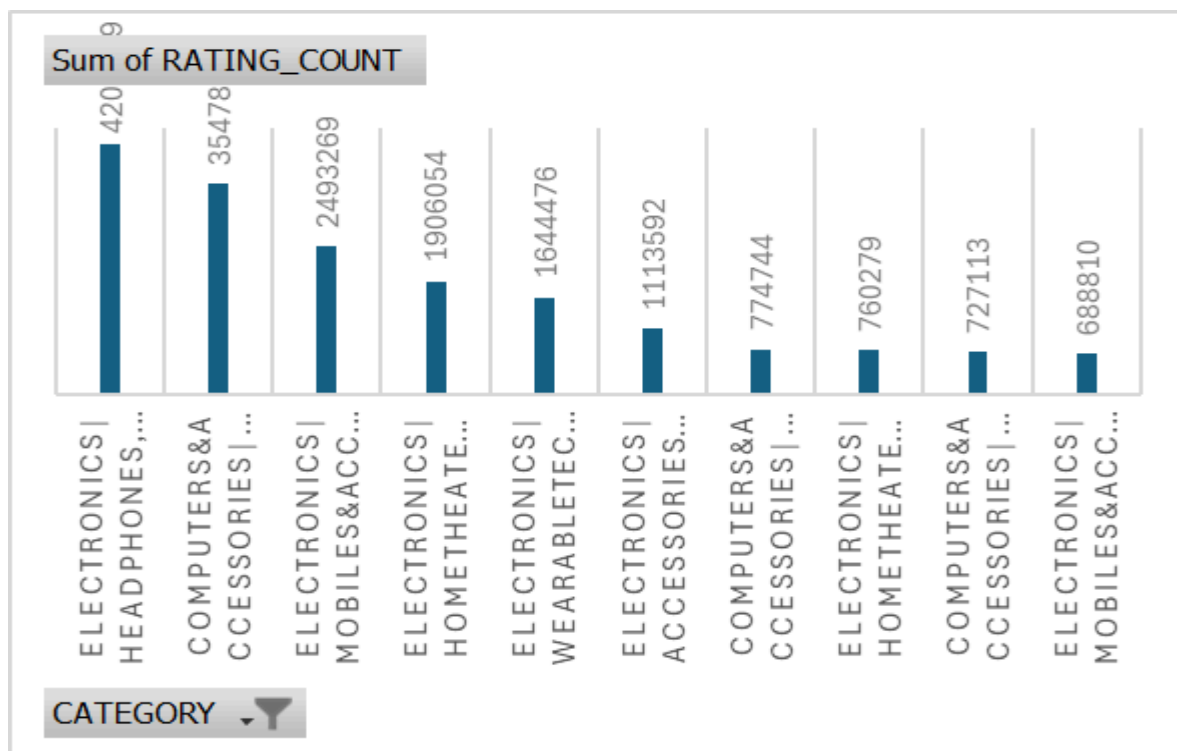
1. What is the average discount percentage by product category?



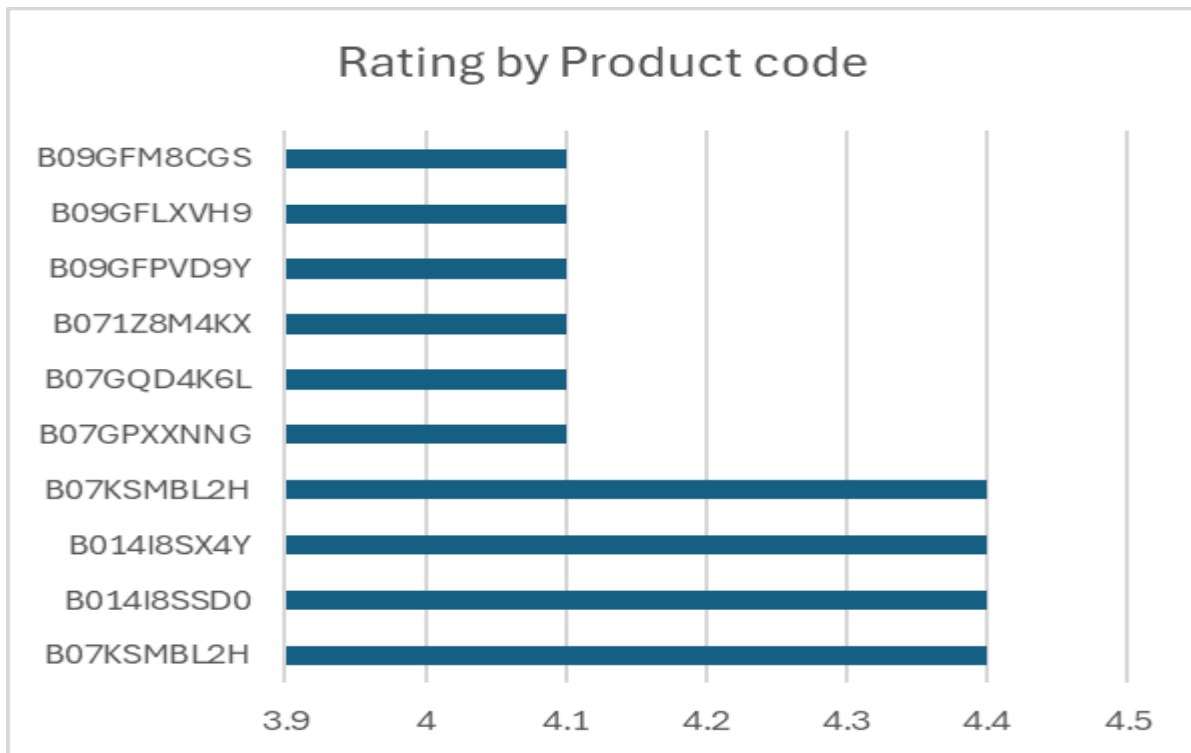
2. How many products are listed under each category?



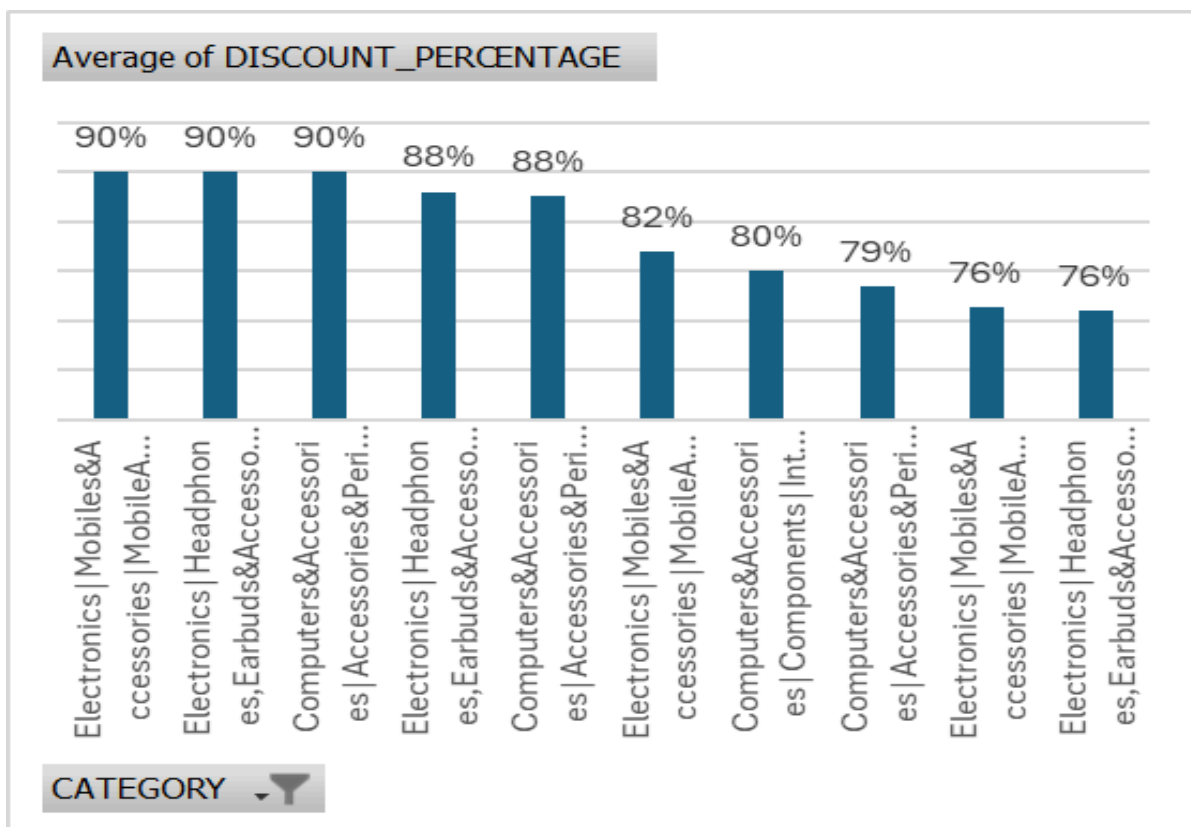
3. What is the total number of reviews per category?



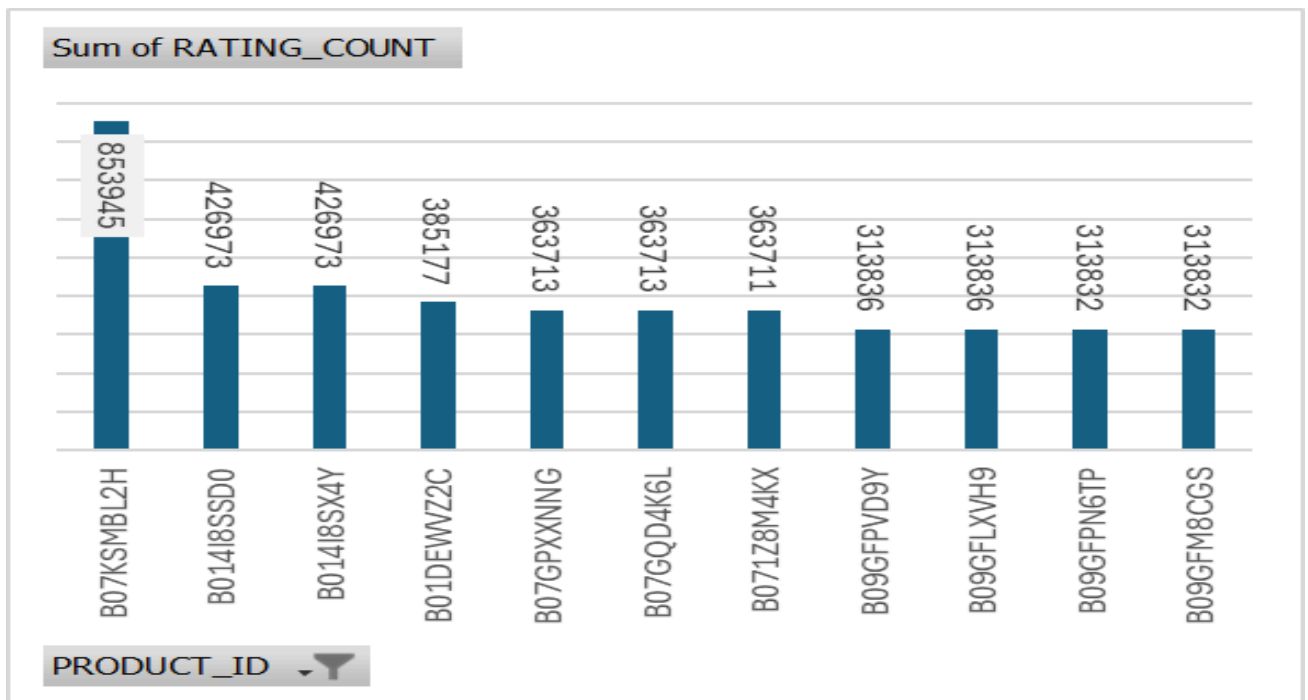
4. Which products have the highest average ratings?



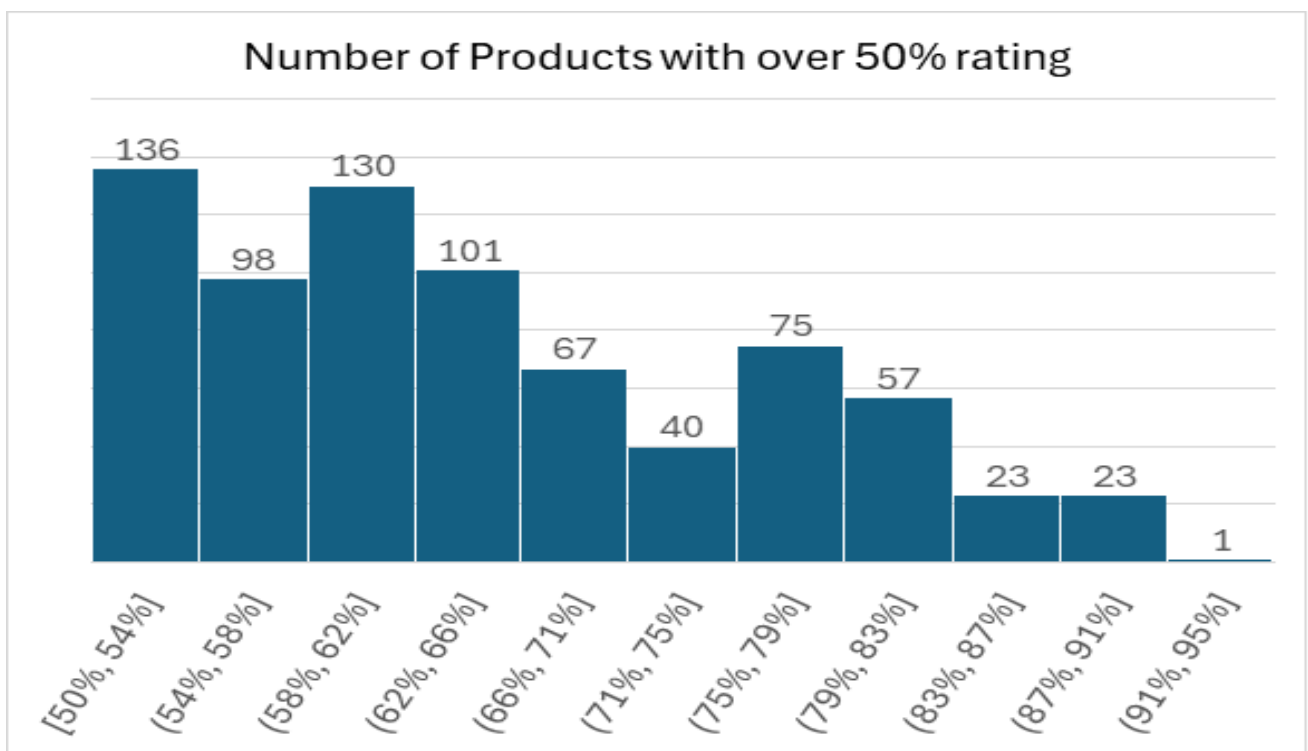
5. What is the average actual price vs. the discounted price by category?



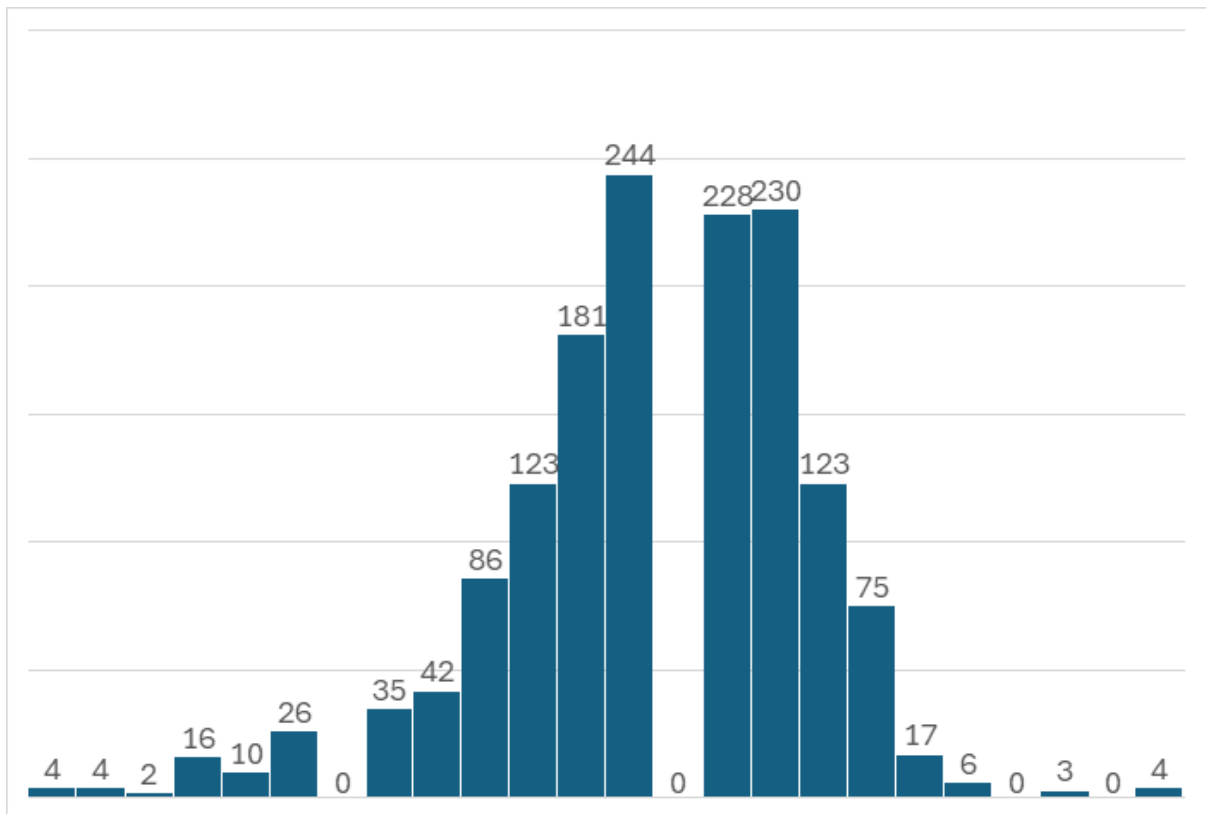
6. Which products have the highest number of reviews?



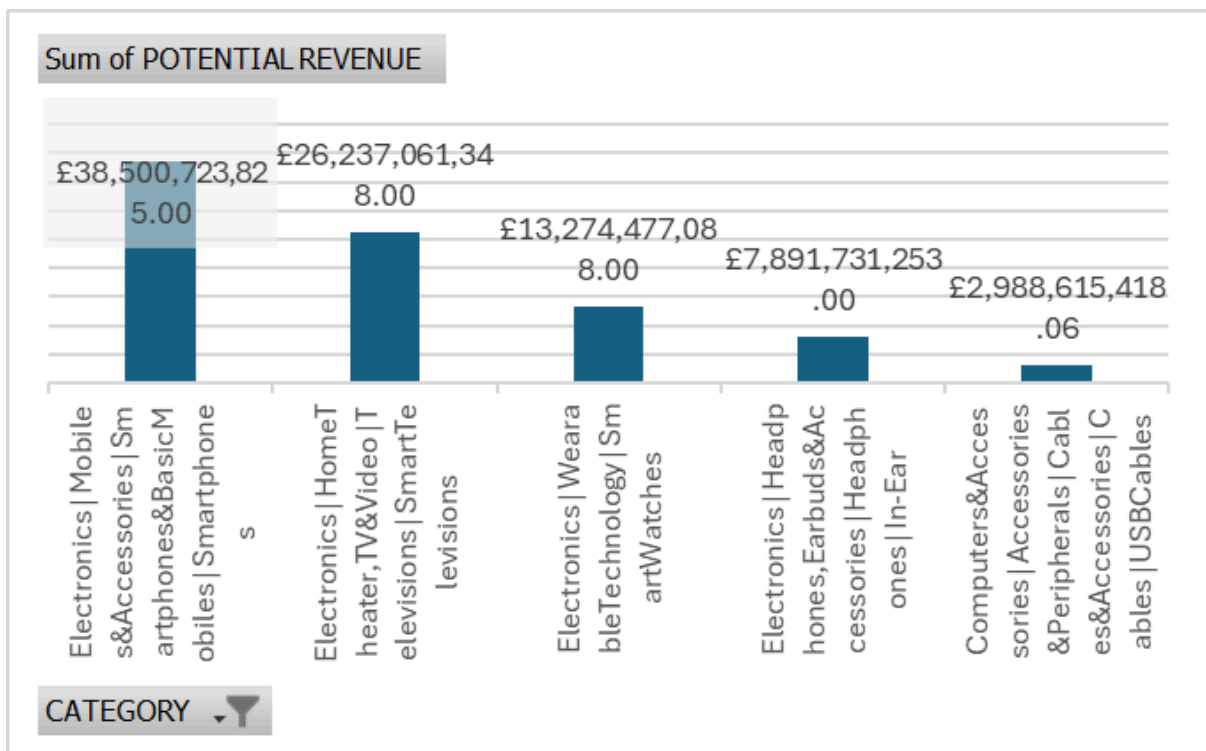
7. How many products have a discount of 50% or more?



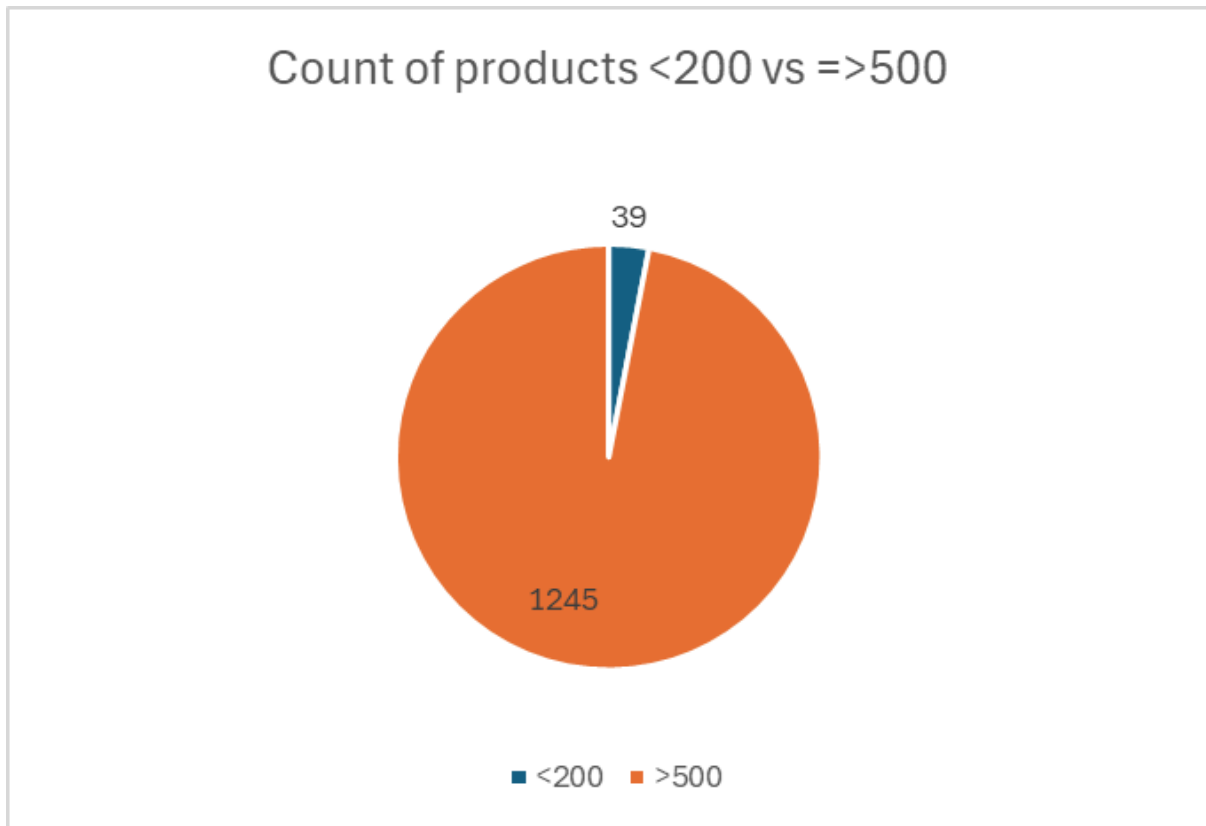
8. What is the distribution of product ratings?



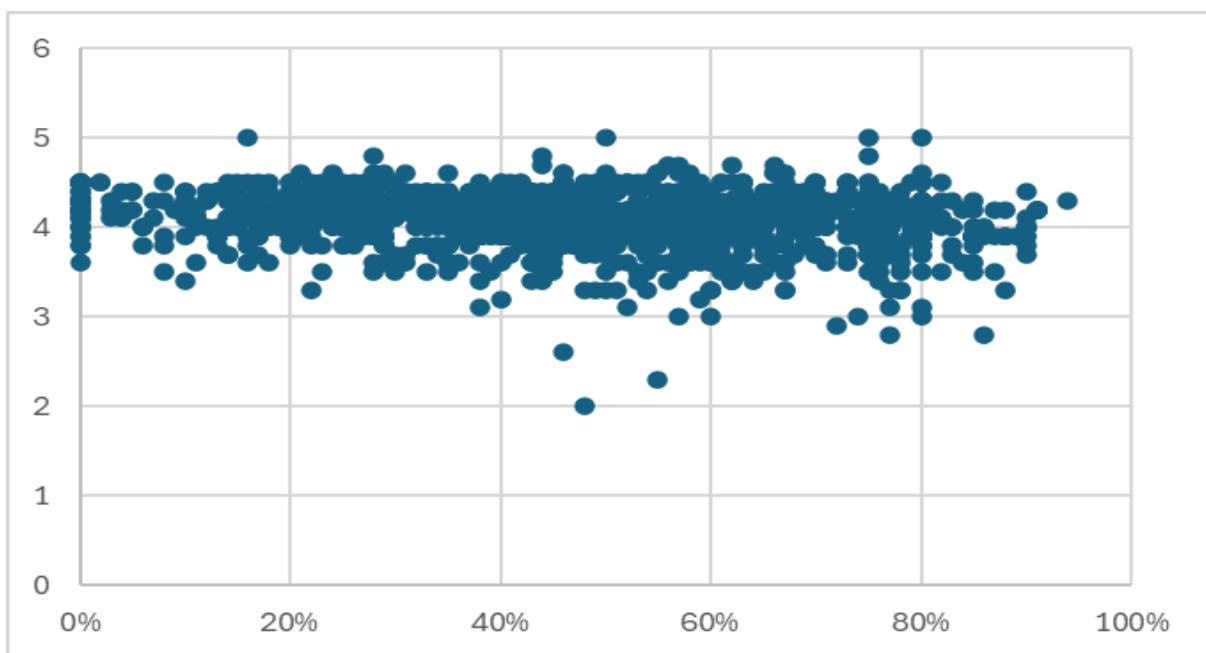
9. What is the total potential revenue (actual_price × rating_count) by category?



10. What is the number of unique products per price range bucket (e.g., <₹200, ₹200–₹500, >₹500)?

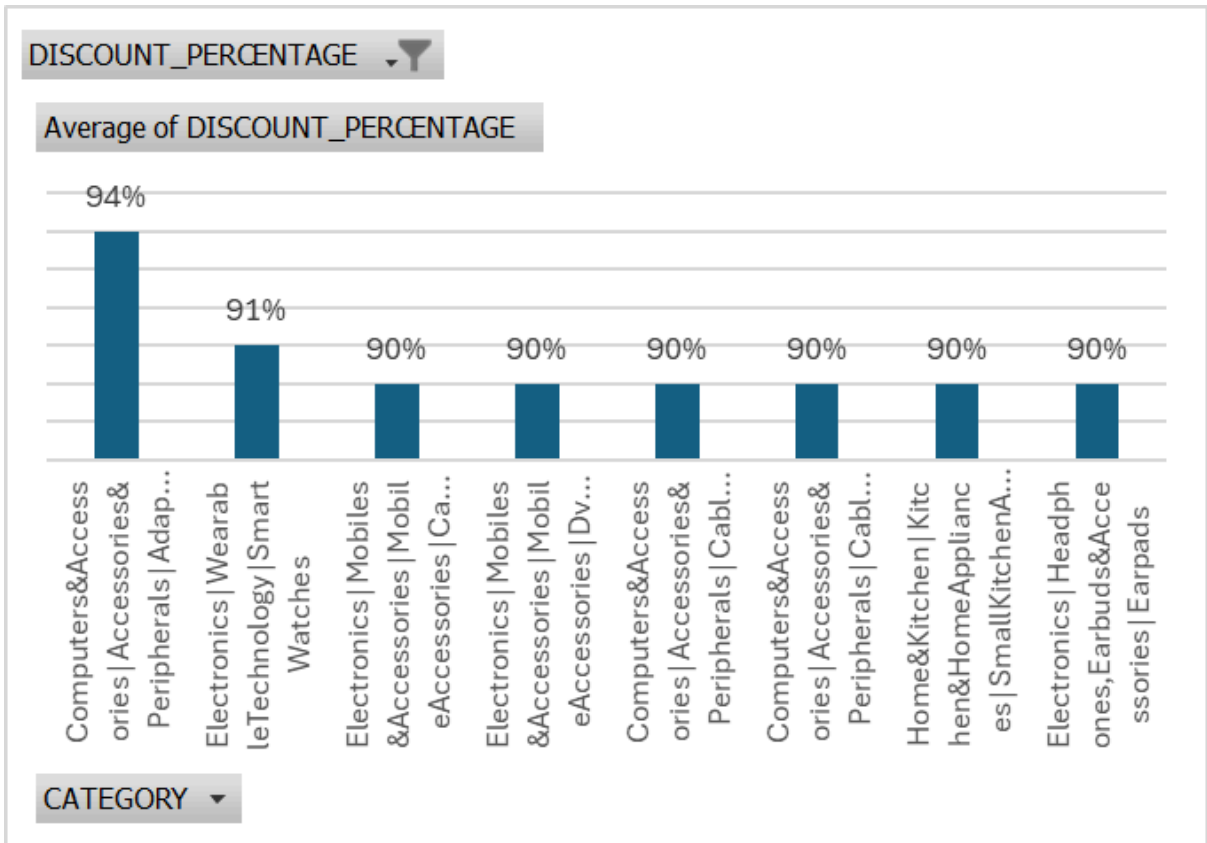


11. How does the rating relate to the level of discount?



12. How many products have fewer than 1,000 reviews?
327 products have fewer than 1000 reviews

13. Which categories have products with the highest discounts?



14. Identify the top 5 products in terms of rating and number of reviews combined.

