

Amazon Sales Analysis - Summary & Insights

Key Findings from EDA

1. Product prices have a wide distribution with notable outliers. Some products are significantly more expensive, while others are priced very low.
2. The average rating varies across product categories, with electronics typically having lower ratings compared to others.
3. A weak negative correlation exists between discount percentage and product rating, suggesting that higher discounts do not necessarily lead to better ratings.
4. Top-reviewed products often highlight quality and customer service issues, providing insights into product weaknesses.
5. Certain categories like electronics and fashion are more frequently discounted, which could reflect market competition.
6. Higher-priced products do not necessarily receive higher ratings, indicating that price does not directly correlate with quality.
7. There is no significant relationship between description length and price or rating, although longer descriptions tend to be more informative.
8. Products with high review counts tend to have more balanced ratings, while those with low review counts often have extreme ratings.
9. Seasonal trends are noticeable, especially around holidays, with certain categories seeing spikes in sales and pricing.

Interesting Patterns or Relationships

1. Negative reviews often mention issues with product quality, poor customer service, or delivery problems, which could be a focus area for improvement.
2. There is a strong connection between the number of product images and sales performance. Products with more images tend to perform better in terms of customer engagement and sales.
3. Regional preferences vary, with certain products performing better in specific regions, indicating the importance of targeted marketing strategies.
4. The clustering of products based on price, category, and rating reveals insights into customer preferences and market segmentation.

Conclusions & Further Analysis

The analysis has highlighted valuable insights into customer behavior, product pricing, and seasonal trends. It is clear that customer satisfaction is influenced by factors like price, product features, and discount percentages. Further analysis could include a deeper look

into customer demographics, a competitor pricing analysis, and advanced predictive models for rating prediction.

Future areas of focus could involve:

1. Incorporating customer demographics data for more personalized recommendations.
2. Analyzing competitors' pricing and discounts to understand the market landscape.
3. Applying machine learning models to predict product ratings and sales based on features.