

Amazon Data Analytics: Strategies for Optimizing Sales and Performance

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The dataset is mainly extracted from the Kaggle data source, which reveals Amazon product reviews with discounts and actual price details. The crucial information in this data involves product IDs, names, categories, prices, ratings, and user reviews of Amazon (Kaggle, 2022). This dataset offers valuable customer behaviour and product performance information for comprehensive exploratory analysis. Summary statistics offer in-depth insights into the features, average prices, and ratings, thus showcasing essential information. Quantitative analysis brings out trends and potential anomalies, guiding decision-making and strategy formulation and can be beneficial in understanding customer behaviour to optimise products that maximise satisfaction and sales of Amazon. With the help of the figure, Amazon tends to provide discounts of around 3129.28 to attract customers, which might be different for different products as SD is higher. Also, the actual price of 5451.07 shows that Amazon mainly sells affordable products, which has helped the company to see an average rating of 4, which is good data useful for quantification analysis.

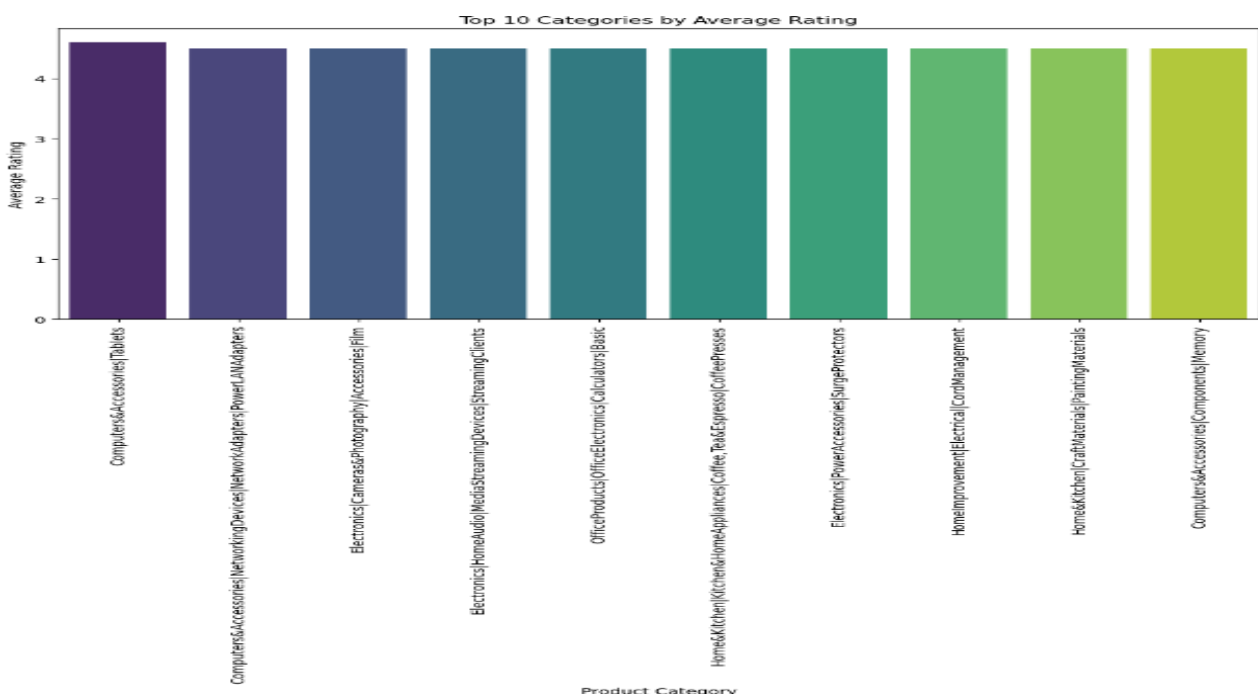


Figure 1: Top 10 Categories by average ratings

The bar plot in **Figure 1** visualises the average ratings of the top 10 product categories for precise comparisons of customer satisfaction. This representation helps recognise which categories work best, guiding marketing strategies and product development efforts to improve customer engagement and sales outcomes. With the help of the graph, it can be seen that Computer Accessories like Tablets have the highest average rating among the top 10. This helps to understand that customers are happy with the tablets purchased through

Amazon, which might be due to the excellent customer service provided by the brand on Amazon and the price might be affordable.

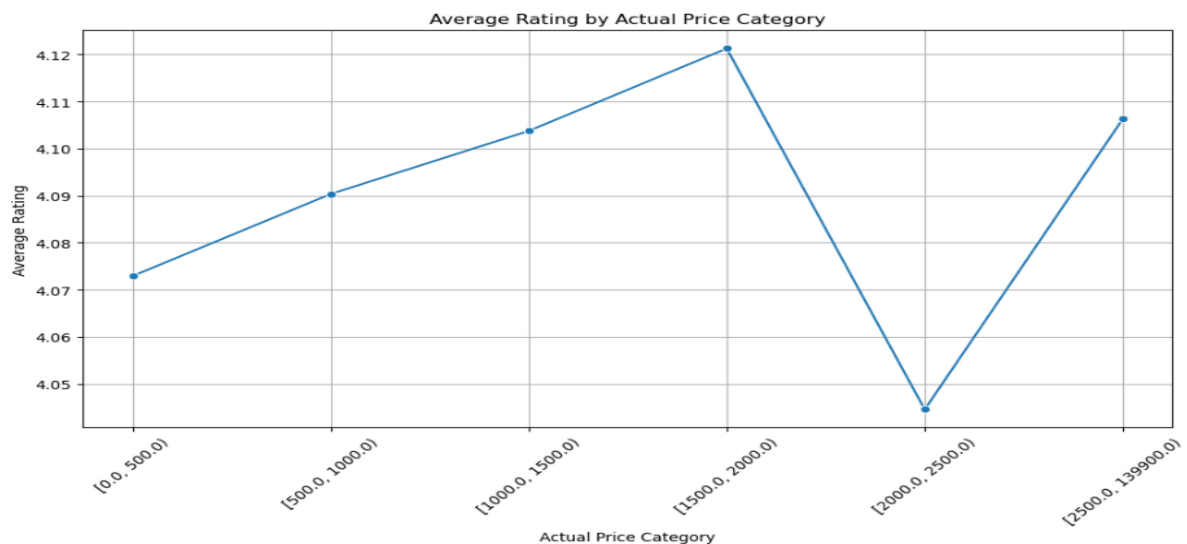


Figure 2: Average rating by actual price category

The line graph in **Figure 2** shows the relationship between the average ratings with the actual price categories, so it smoothenes over effortlessly from one data point to another. This line plot helps businesses understand how pricing factors impact customer satisfaction and change price strategies to make products more attractive and increase ratings. With the help of this graph, it can be seen that product ranging between 1500 - 2000 has the highest average rating due to the customer services offered by these companies with good quality products.

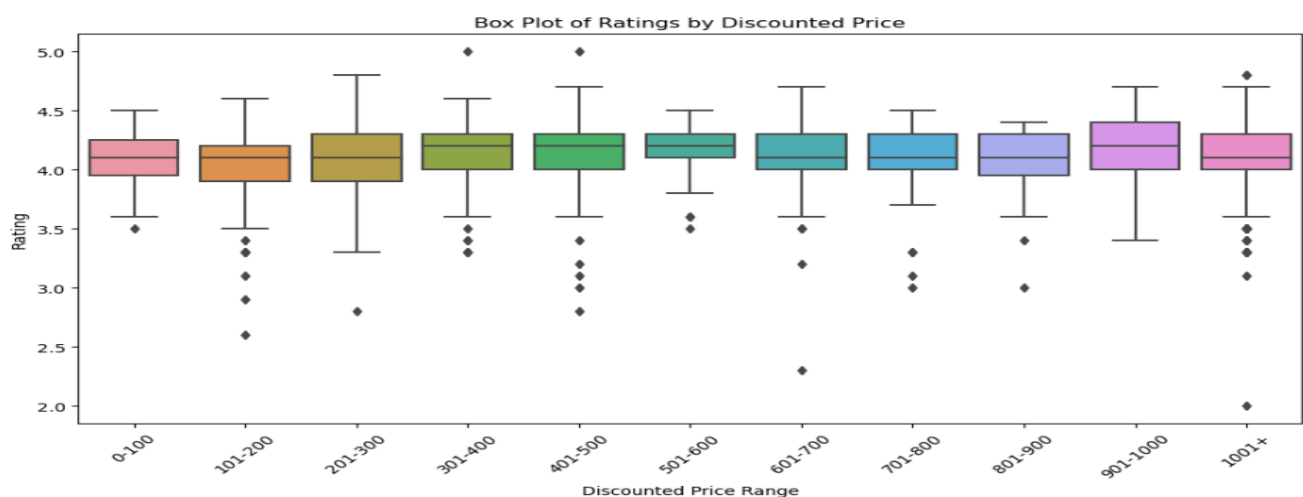


Figure 3: Ratings by Discounted Prices

The box plot in **Figure 3** is selected to show the distribution across the rating categories with associated discounted prices, emphasising the importance of having median values within those bins and possible outliers. This type of visualisation shows how different kinds of prices impact customers in terms of perception and actual satisfaction when purchasing. Hence, a compelling marketing mix and decision-making for setting prices ensures improved sales performance of Amazon.