



AMAZON
DISCOUNT STRATEGIES REPORT

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1. Executive Summary

Amazon is one of the largest e-commerce platforms, selling a wide range of products from home appliances to cosmetics. They often give discounts and promotion to various products; however, the discounts do not always end up at better revenue and customer satisfaction. They aim to come up with totally enhanced and innovative discount strategy so the purpose of more sustainable business activities.

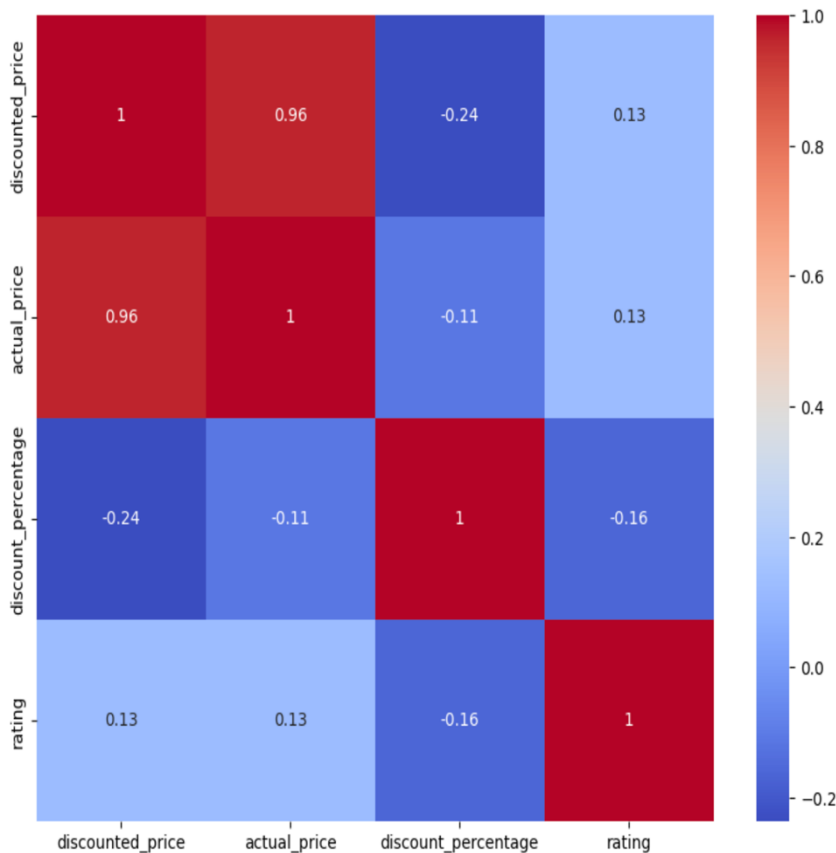
The report analyzed the impact of discount strategies on sales, product ratings on Amazon. By examining key correlations and sales, key optimal discount ranges and category – specific discount effectiveness are proposed.

Specifically, the analysis suggests that moderate discounts 40 – 60% drive the highest sales while maintaining relatively good product ratings, making this range the most effective. Conversely, extreme discount 80-100% often signal lower product quality, leading to low sales and poor ratings.

Category – based insights reveal that various categories, such as Car & Motorbike, Health & Personal Care, or Music Instrumentals are not impacted by the discount rate, which enquire for the further research to boost sales and maintain high rating. The Home & Kitchen performs well with moderate discounts 40 – 60% and still maintain good performance with lower discounts due to its high demand.

2. Data Analysis

2.1. The relationship between critical factors



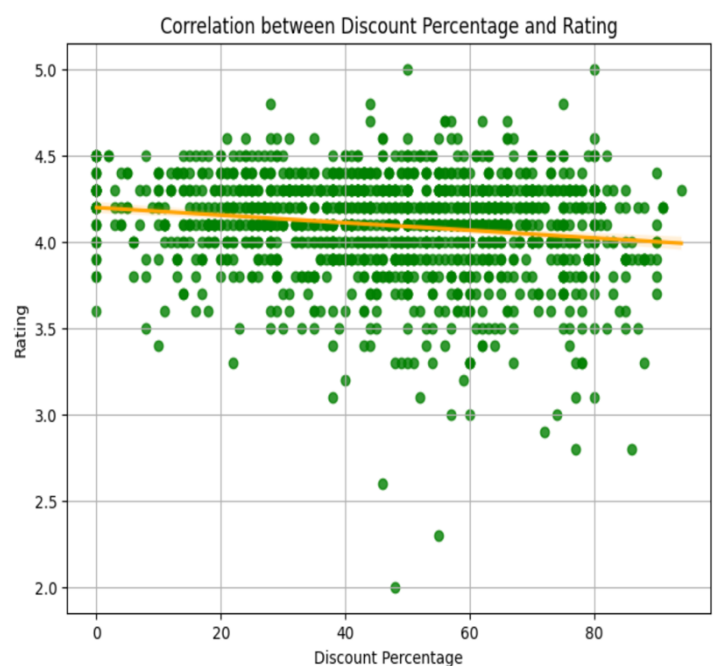
In order to evaluate which aspects of sale may affect the discount strategy, the evaluation of relationship between critical factor is essential. Correlation shown in the below heatmap may explain how two variables are linearly related.

First of all, ***actual_price and discount_percentage present a correlation of -0.11***, indicating that as actual_price increases, discount_percentage may slightly decrease. This weak relationship suggests that ***discounts are not solely determined by price.***

A weak positive correlation (0.13) between actual_price and rating suggest that higher-priced products tend to have slightly higher rating. However, the relationship is weak, meaning other factors likely to have a bigger impact.

Noticeably, ***rating and discount_percentage witnessed a negative correlation of -0.16***, suggesting a negative weak relationship. It implies that products with higher discounts might have slightly lower ratings on average. It may suggest ***that heavily discounted products may be of lower quality of less popular.***

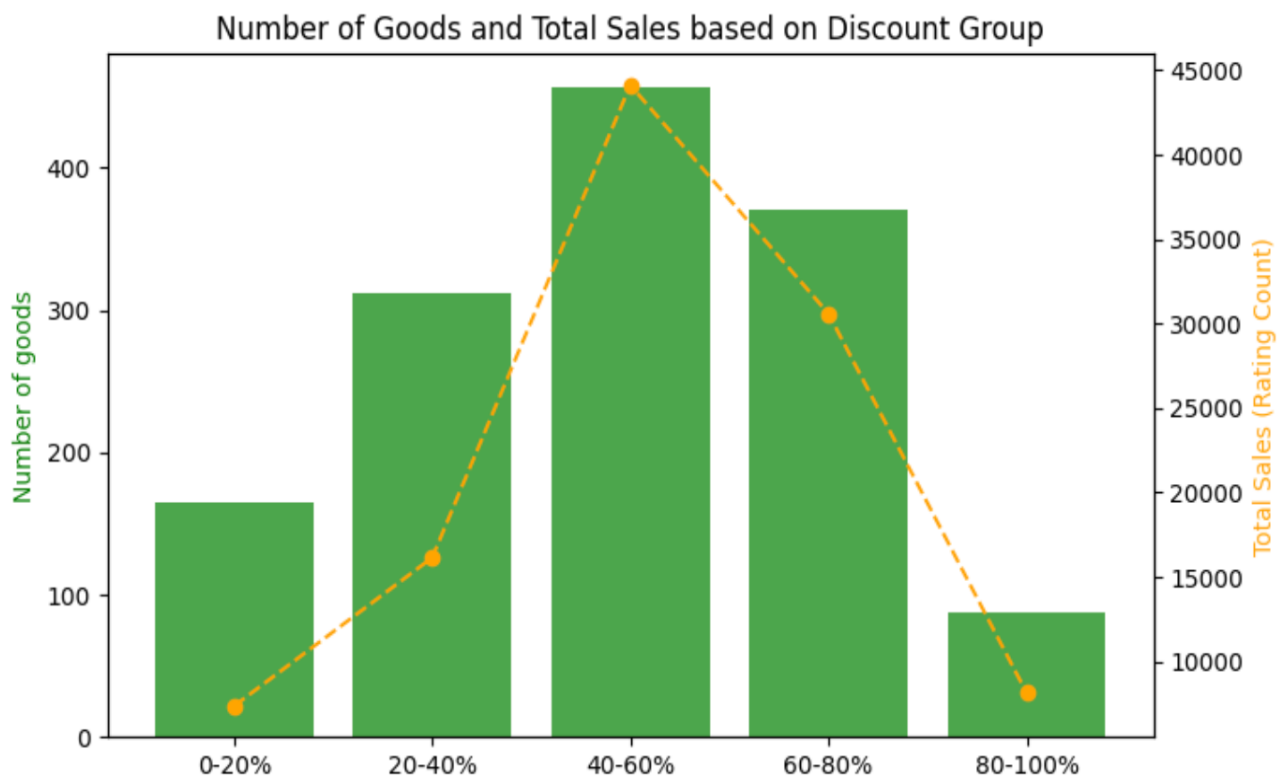
The scatter plot on the right side clearly shows that as the higher discount percentage has lower rating but it is really clear. Therefore, further analysis must be implemented to see which factors may affect discount.



2.2. How Discount Percentage Affects Sales and Product Ratings



The chart above suggests that the **general trend is that average rating decreases as the discount percentage increases**.

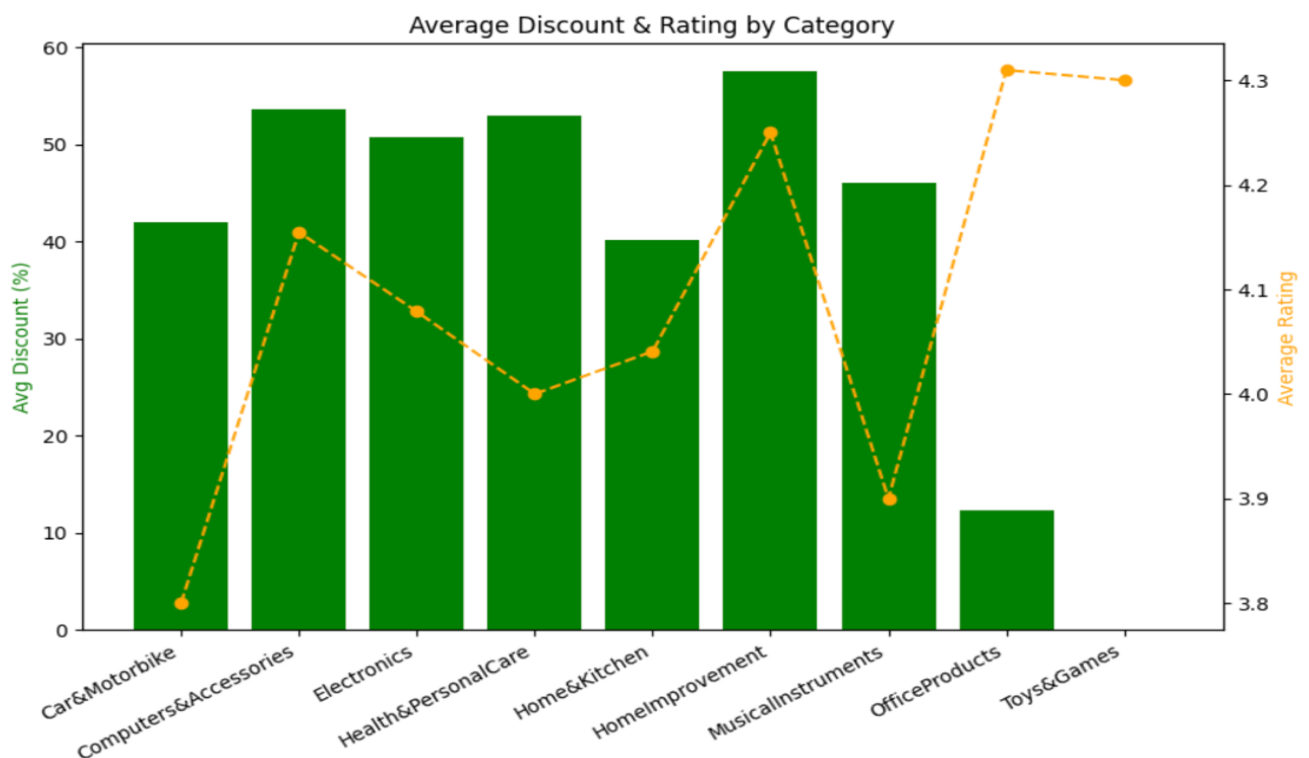


The above chart shows that products with a 40-60% discount have the highest total sales. Products in the 60-80% discount range still have high sales, but the 80-100% discount group sees a sharp decline in sales.

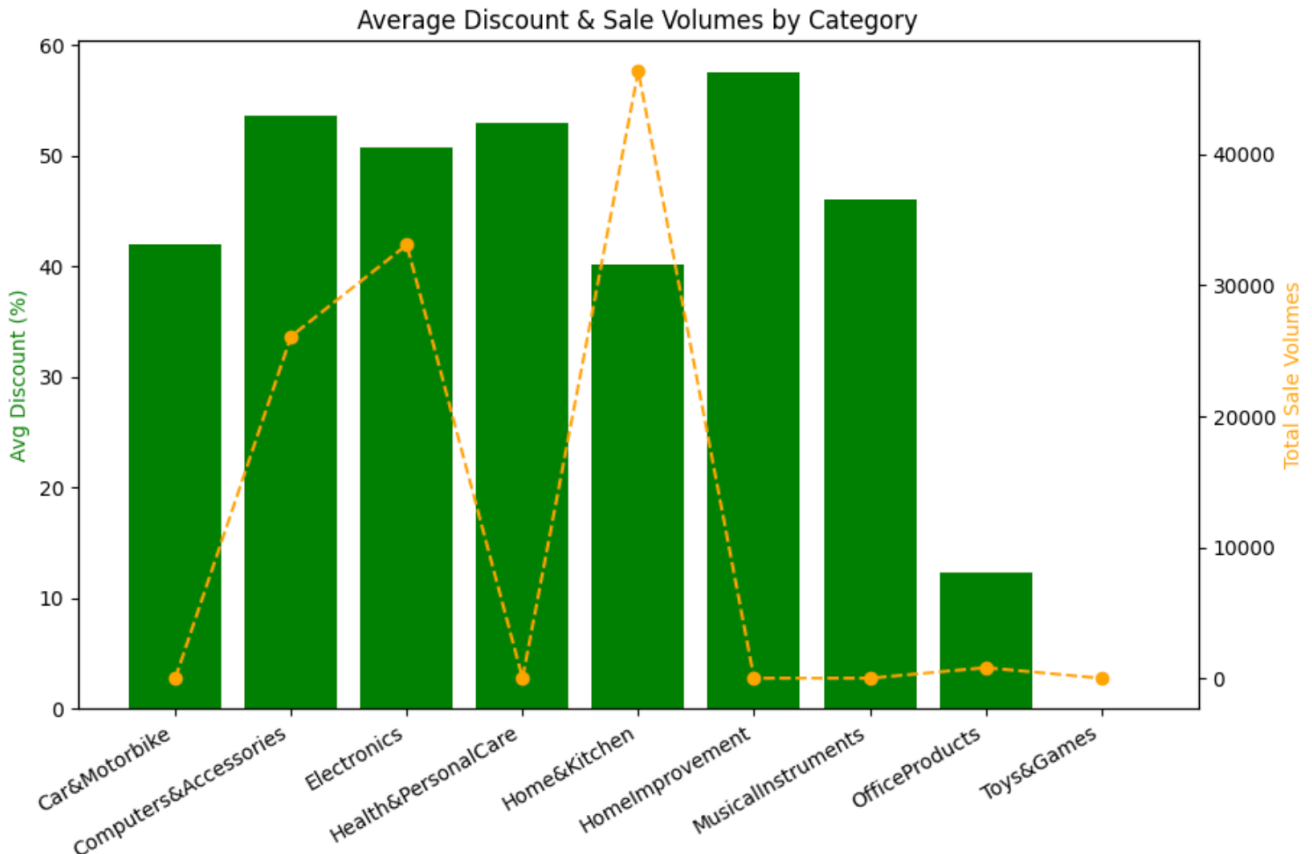
These two chart above indicates very clear pattern between discount, rating, and sales volumes, assisitng understanding the tendency of customer:

1. Products having discount in range 0 – 20% register the least total sales but achieve the highest rating of over 4.16/5. It says that those items may still be pricey, but the quality is quite good and satisfies customers' demand.
2. **Higher discounts drive more sales, but extremely high discounts may signal lower product quality.** The sharp drop in both sales and ratings in the 80-100% range could indicate that these are either clearance items or low-quality products that customers are dissatisfied with.
3. **The 40-60% discount rage seems to be the equilibrium point**, balancing both high sales and relatively better ratings.

2.3. The Discount Percentage Patterns based on Categories



- Categories with **high discounts (>50%)**, such as **Computer & Accessories** and **Home Improvement**, tend to have **decent ratings**, around over 4.1, suggesting customers perceive good value.
- Although **Musical Instruments** has a relatively **high discount** but a **lower rating**, approximately 3.9.
- **Office Products** have **low discount, high rating and low sales volumes**, indicating that customers are satisfied with the quality but the price can be relatively still high.



- Categories like **Home Improvement, Health & Personal, Car & Motorbike** have **high discount** (above 40%) and **consistently low sales volumes**.
- **Home & Kitchen** has a **moderate discount**, about 40%, but registers for the **highest sales**, *suggesting strong demand even with smaller discounts*.

2.4. Wordcloud Illustrates the Negative Sides of Home Kitchen (Optional)



Based on simple analysis, it can be said that Home&Kitchen is the category having the most low ratings (below 4).

The wordcloud may summarise which aspects of Home&Kitchen that are mentioned the most. There are two products, which are **heater** and **kettle**, that may cause disatisfied to customers.

Beside, **price** and **time** are also talked much, it can be predicted that customers may complain about the unreasonable price of this category's products and the time get to buy or the duration of these products.

3. Recommendation

a. Optimal discount ranges

- **40 – 60% discount** is the sweet spot: this range **maximizes sales** while maintaining a decent product rating and sales volumes.
- Discount above **80% should be avoided**, as they often correlate with **low sales and poor ratings**.

b. Categories – Specific Discounts

- **Car & Motorbike and Musical Instruments:** discount seems **not heavily affect the rating and sales volumes** of these categories. Therefore, Amazon should implement more **in-depth investigation**, such as collecting feedback from customers, doing surveys to explore more.
- **Computer & Accessories and Electronics:** Customers respond well to high discounts (above 50%) while still giving good ratings and maintaining high sales volumes. It implies that these categories should **maintain their discount rate**.
- **Home & Kitchen:** A moderate discount drives the highest sales and rating, it means that this category's **demand remains strong even with smaller discounts**.

c. Customer Perception & Discount Strategy

- Heavy discounts may signal **clearance or low-quality products**, leading to **negative customer perception**. However, Low discount range results in the highest product ratings because it indicates premium items.
- **Categories with consistently low sales despite high discounts**, such as Car & Motorbike, Health & Personal Care, Home Improvement, and Music Instruments, might **need better strategy**, like digital advertisement, product research, etc, instead of just focusing on discounts.
- Amazon should **start with lower discounts** and **adjust discount gradually** based on **sales performance, seasonality, demand, and market pricing**.