

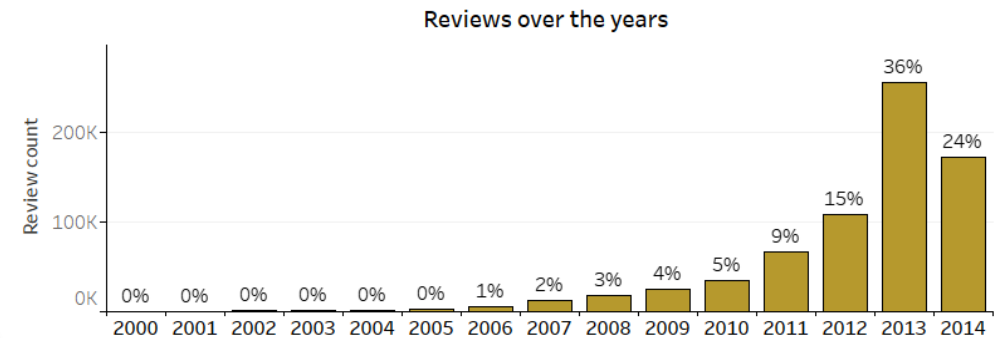
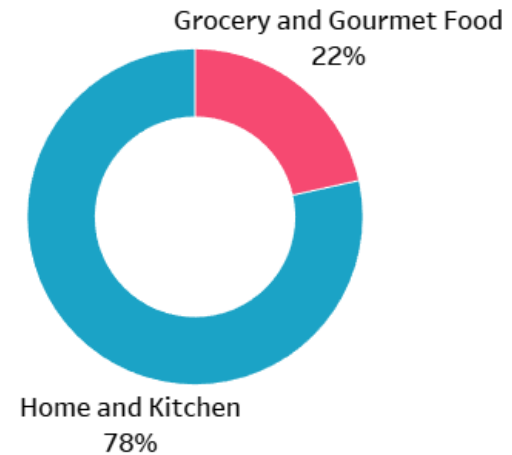
The background is a deep blue gradient with a subtle pattern of white dots. Overlaid on the left side are several concentric circular patterns and a large arc with a scale. The scale has numerical labels: 140, 150, 160, 170, 180, 190, 200, 210, 220, 230, 240, 250, and 260. There are also smaller circular elements with arrows indicating clockwise or counter-clockwise movement.

EXPLORATORY DATA ANALYSIS

AMAZON REVIEWS

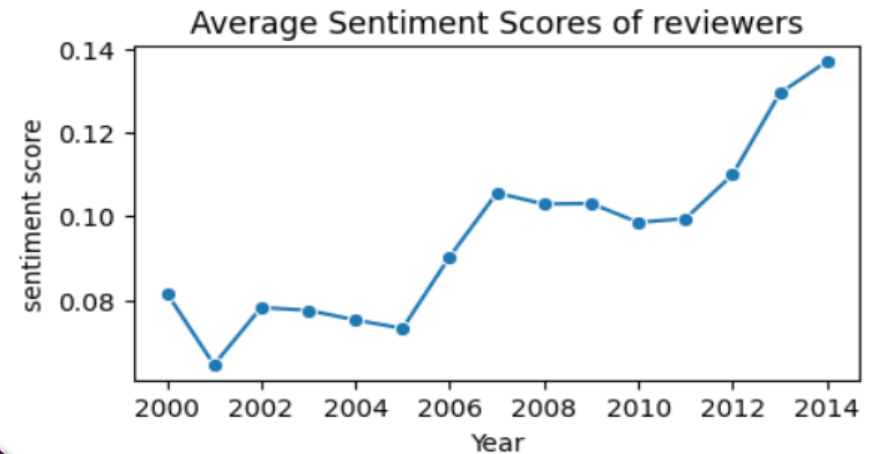
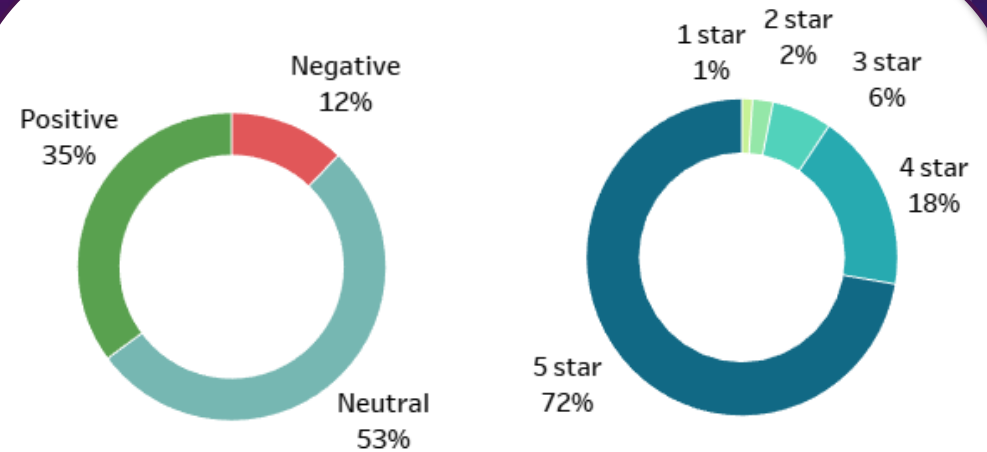
Exploring the merged data :

- A pair of categories have been chosen for the sentiment analysis,
 - HOME & KITCHEN
 - GROCERY & GOURMET FOOD
- Time range of the reviews in the datasets :
MAY 2000 – JULY 2014.
- Total number of reviews : 7,02,934
- Total number of reviewers : 74,426
- Total number of products : 36,950
- Reviews doubled in count after 2012.



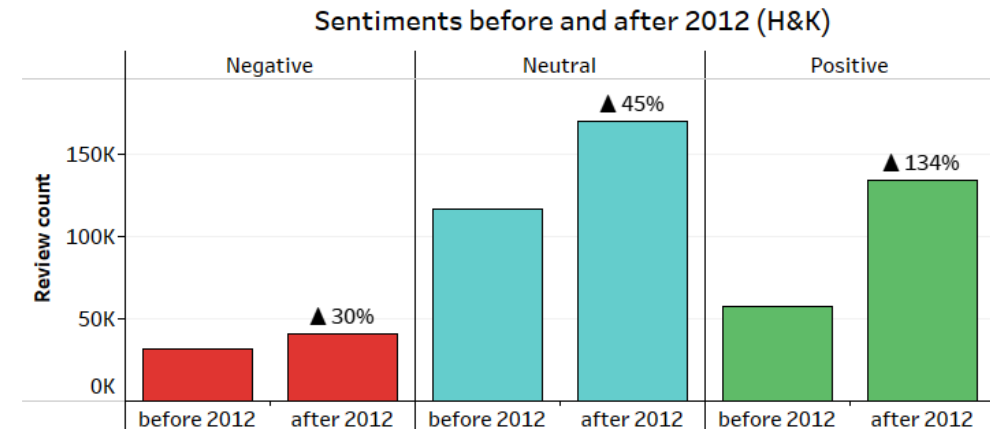
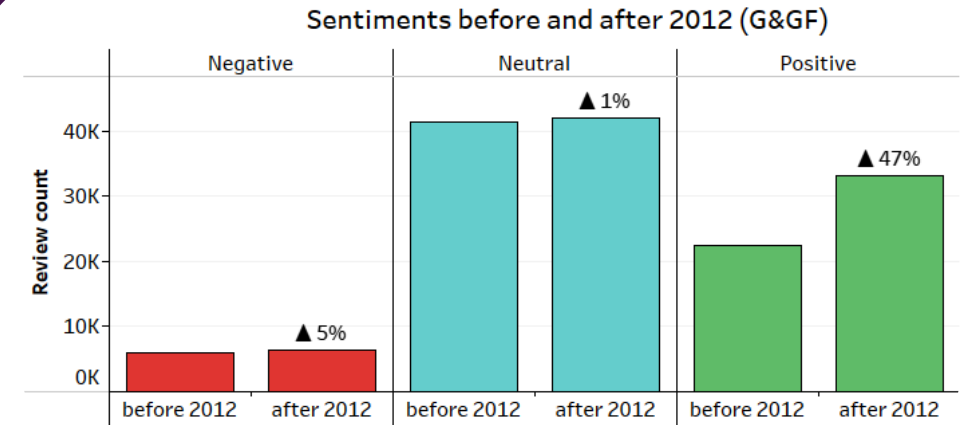
Exploring the merged data :

- Neutral reviews have the highest share among reviews in both categories.
- 90% reviewers have given 4+ ratings to products in both categories combined.
- The average sentiment scores of reviewers have increased over the years.
- There's a decline in average sentiment scores between 2002 & 2005, and 2007 & 2011.

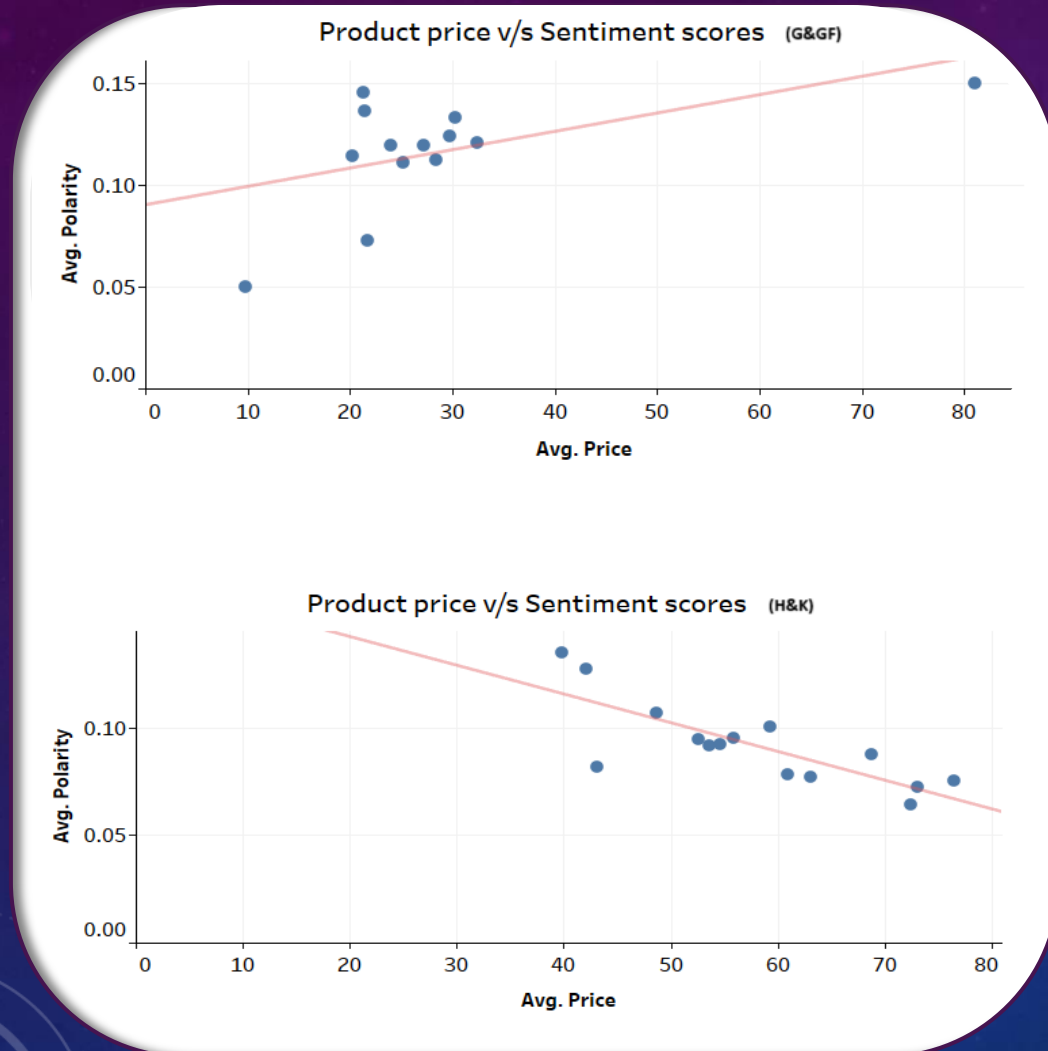


Do the proportions of sentiments change after the year 2012 ?

- In the Grocery and Gourmet Foods category, positive reviews increased the most with a 47% increase happening in 2 years compared to the previous 12 years.
- In the Home and Kitchen category, positive reviews have more than doubled in 2 years in comparison to the last 12 years.



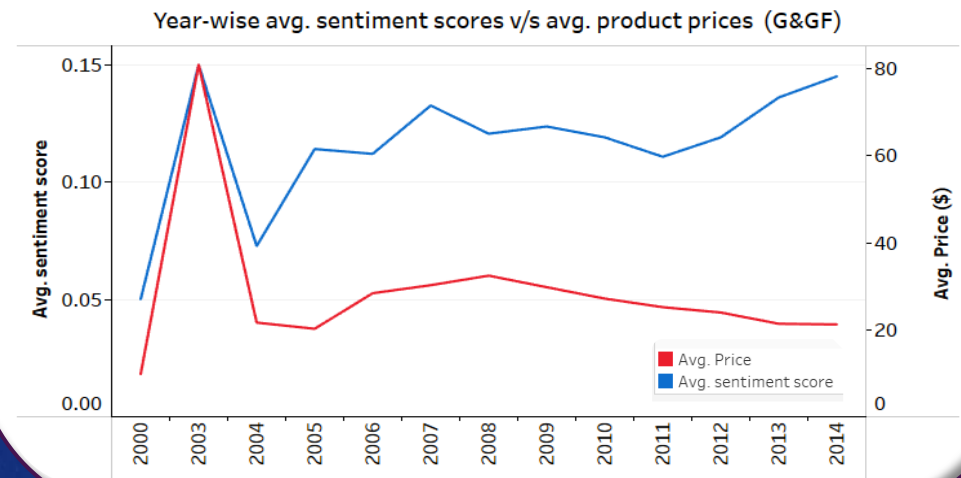
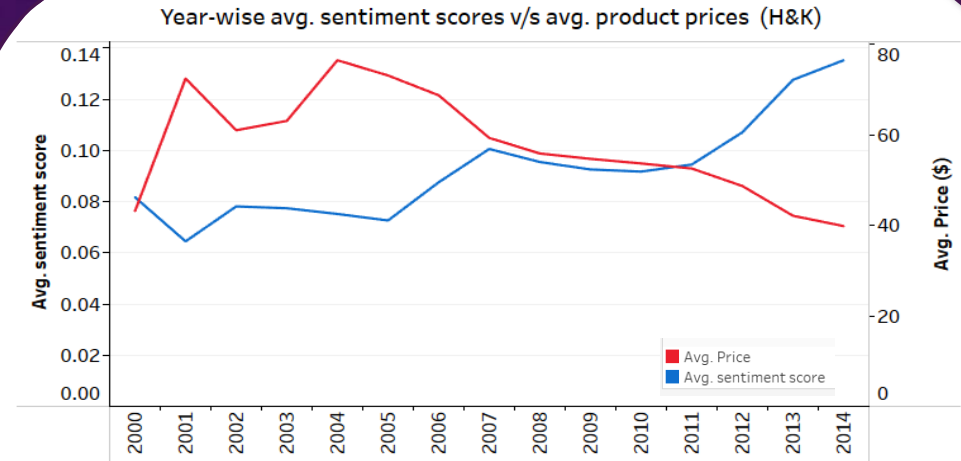
What is the relation between sentiment score of reviewer and the price of a product ?



- In the Grocery and Gourmet Food category the review sentiment increases with increase in the average prices of products over the years.
- In the Home and Kitchen category, the review sentiment decreases with increase in the average prices of products over the years.

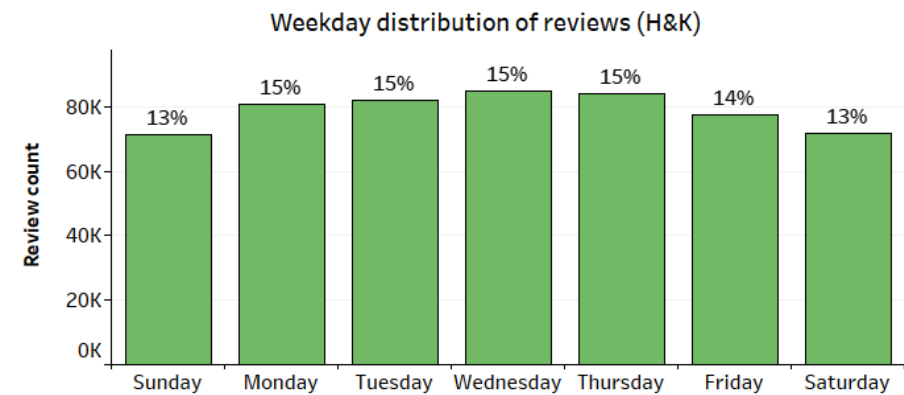
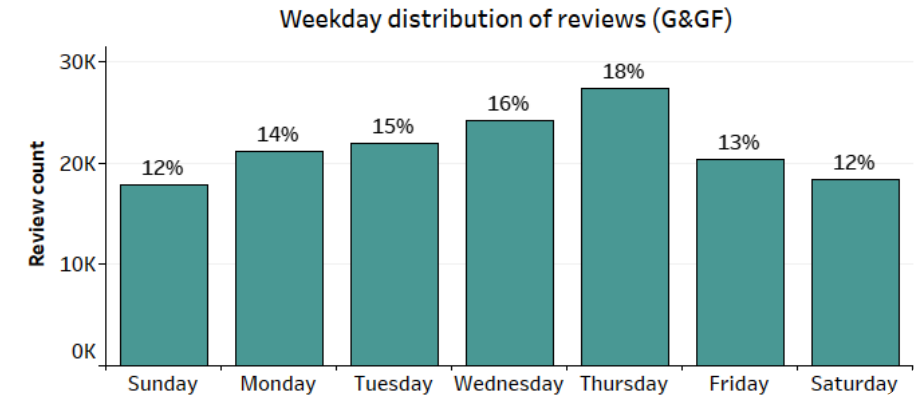
What is the annual trend of sentiment scores w.r.t. product price ?

- Both categories show increase in average sentiment scores of reviews over the years.
- Both product categories show a decline in average sentiment scores between 2007 and 2011, before increasing again after 2011.
- Grocery and Gourmet Food category has no reviews in the years 2001 and 2002.

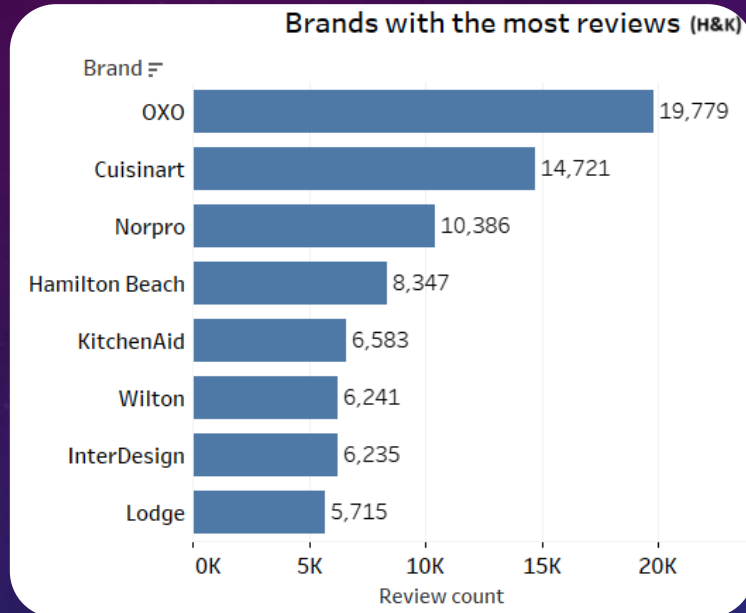


How are reviews distributed across the week ?

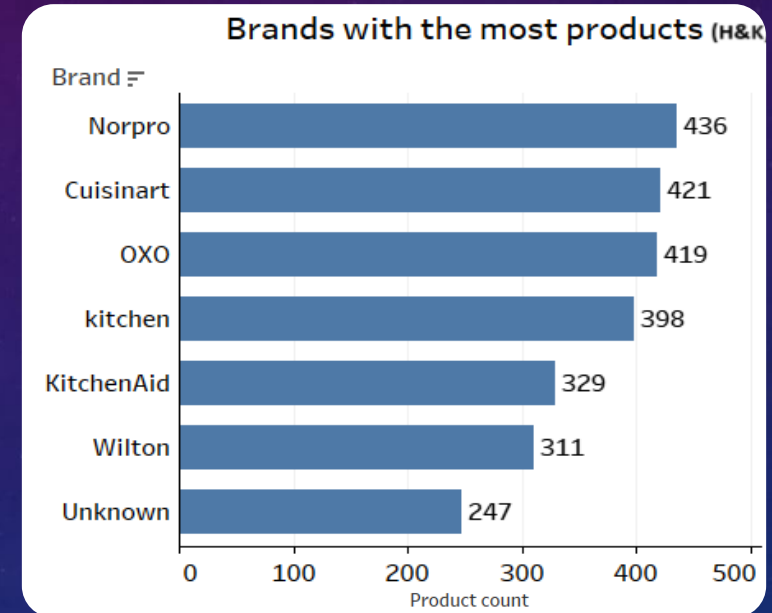
- The reviews are not uniformly distributed across the weekdays in Grocery and Gourmet Food category.
- The reviewers are uniform across the weekdays excluding the weekends, in the Home and Kitchen.



Which brands have the most products and the most reviews in Home & Kitchen category?

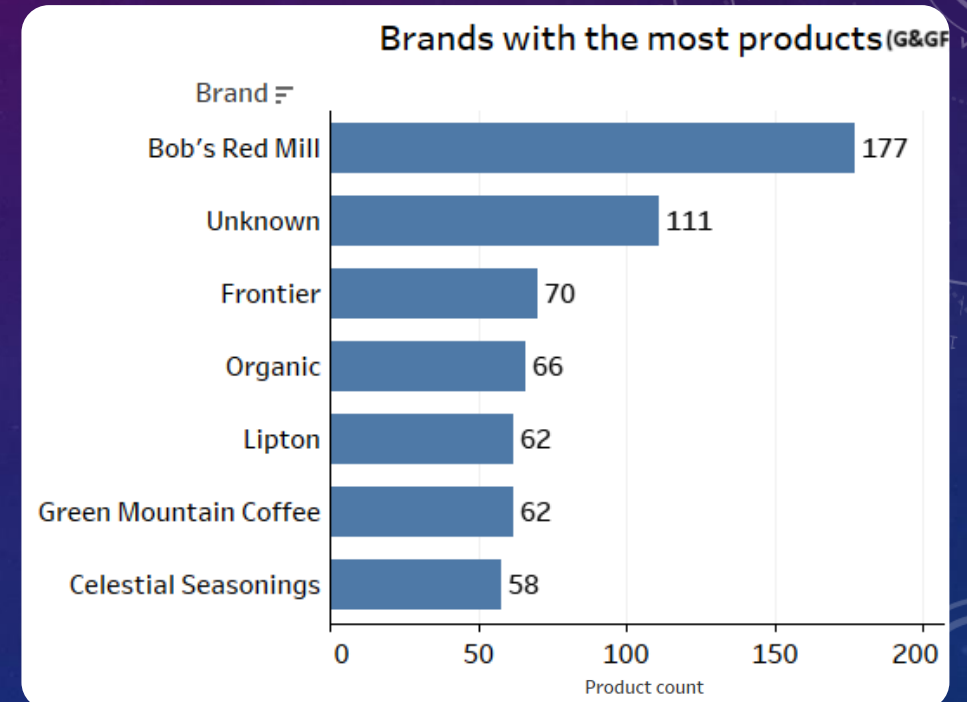
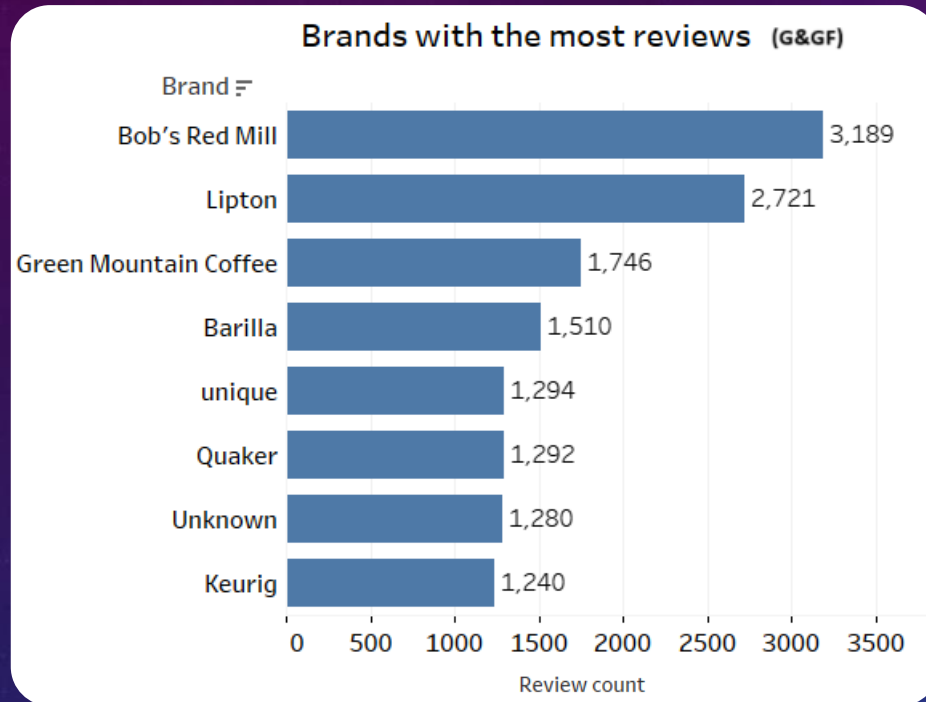


- OXO has the highest number of reviews.
- Cuisinart has the 2nd highest number of reviews.



- Norpro has the highest number of products.
- Cuisinart has the 2nd highest number of products

Which brands have the most products and the most reviews in Grocery & Gourmet Foods category?



- Bob's Red Mill has both the highest number of products and the highest number of reviews.

[illegible]

- ### Frequent words in negative reviews

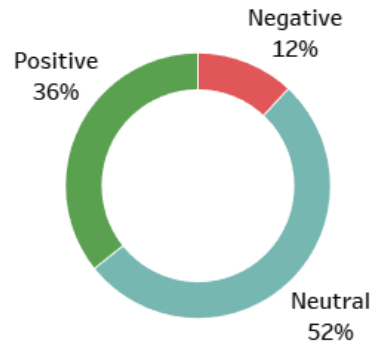


- 'pan', 'problem', 'knife', 'cheap', 'bad', 'break' are the top most frequent words in negative reviews.

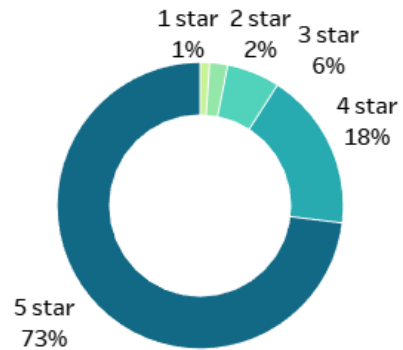
DASHBOARD

Amazon Product Analysis

Sentiments



Ratings



Product ID

(All)



Year

(All)

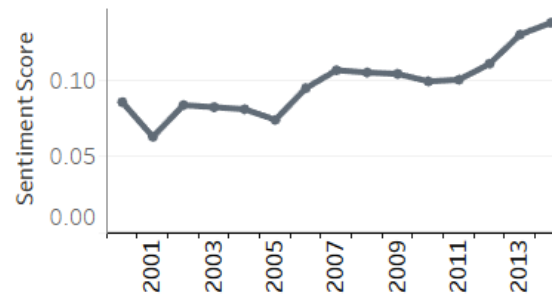


Brand

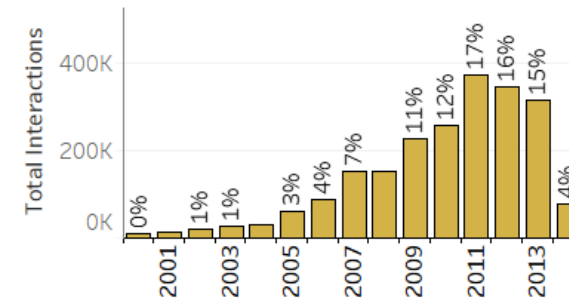
(All)



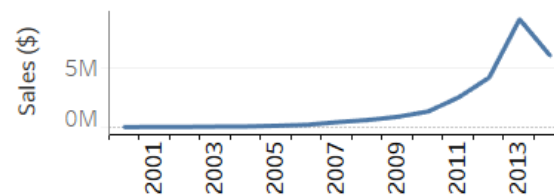
Year-wise Polarity



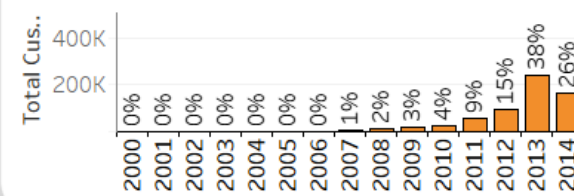
Year-wise Interactions



Year wise Sales



Year-wise Customers



Price

0.0 1000.0

Brand product filter

Total Sales

\$ 25,669,797

Customers

74,412

Products

31,631

Brands

6,267

RECOMMENDATIONS :

- Complementing products to existing customers based on their past purchases can increase their overall spend with the business.
- Implementing loyalty programs that reward customers for repeat purchases can encourage ongoing engagement. Loyalty points, discounts, or exclusive access to products or services can be enticing.
- Consistently delivering high-quality products or services that meet or exceed customer expectations is fundamental for retention.
- Collect customer feedback through surveys or reviews to understand their needs and concerns. Act on this feedback to make improvements.
- Segment customers based on their behavior and preferences. This allows for more targeted and personalized marketing efforts.