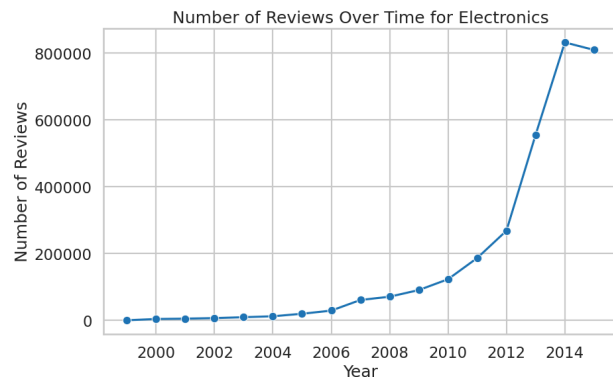
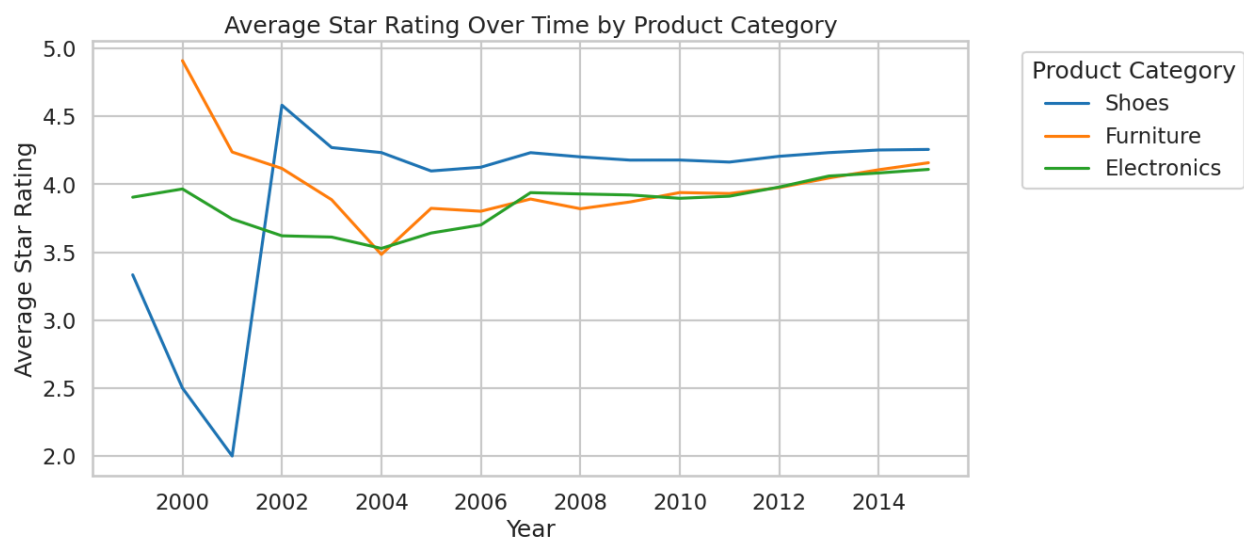


The primary objective of this analysis was to determine whether Amazon product quality has declined over time, as reflected in customer reviews. This study examines trends in star ratings, review sentiment, review length, engagement (measured by helpful votes), and category-specific variations. I hypothesized that Amazon product reviews have become more negative over time, particularly in perceived product quality. I expect to observe a decrease in average star ratings, an increase in negative sentiment in written reviews, and possible changes in review length and engagement. Additionally, I would like to know whether this trend varies across different product categories. The dataset used for this analysis is the Amazon US Customer Review Dataset, which I pulled from Kaggle.

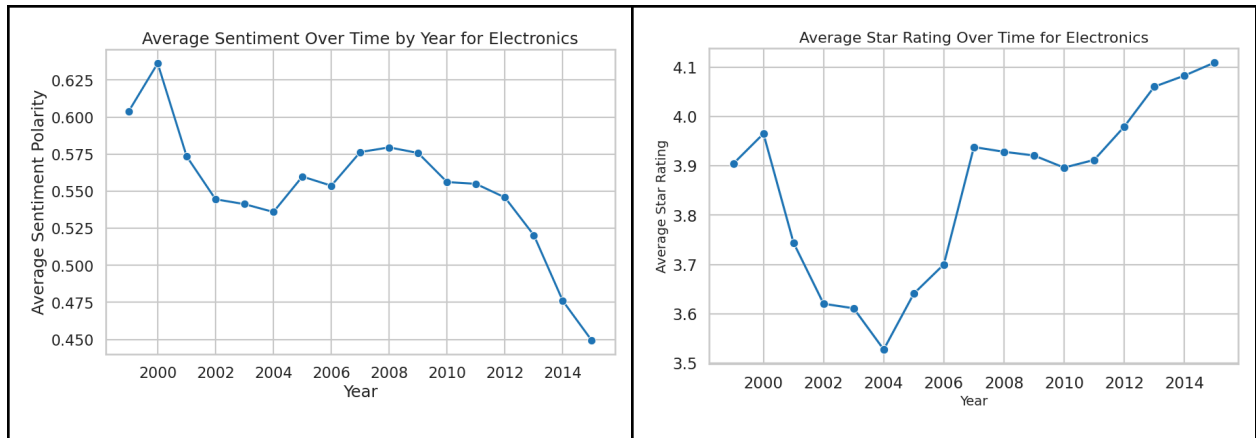
After the initial data cleaning, I looked at how the average number of reviews per year changed over time. It increased exponentially with a huge spike from 2012 to 2014 specifically for the category Electronics. I found out that 2014 was the year Amazon released the Fire TV device as well as the Fire Phone, which I thought may have been a contributing factor. Then I checked the top ten products that were reviewed for each year from 2012 to 2014 and none of the top products contained anything of the sort. There were a lot of Falcon ham radios and antennas though!



As certain categories, such as books, only had reviews until 2005, and some categories, for example, mobile apps, started recording reviews in 2010, I chose to analyze categories that recorded data for similar time ranges. I decided on the following categories to look more in-depth at: Electronics, Furniture, Shoes.



I selected the product category Electronics to dive more in-depth to, simply because I thought it would be interesting.



## SOURCES

<https://www.analyticsvidhya.com/blog/2022/07/sentiment-analysis-using-python/>

<https://www.cbsnews.com/amp/news/20-years-of-amazons-expansive-evolution/>