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Analyzing Black Friday/Cyber Monday Tends

**Introduction**

Black Friday and Cyber Monday have evolved into two of the most significant shopping events in the United States, each with distinct origins and changing consumer trends. Black Friday started in the 1950s, initially as a term used by Philadelphia police to describe post-Thanksgiving shopping chaos. It was later embraced by retailers to promote deep discounts and massive sales with the marketing spin that retailers start to operate in the “black” on the Friday after Thanksgiving. Cyber Monday was introduced in 2005 by Shop.org after they noticed a spike in online shopping on the Monday after Thanksgiving. It has emerged as an online shopping event, encouraging e-commerce transactions with exclusive digital deals. Over the years, both events have witnessed record-breaking sales, a rise in mobile purchases, and an increasing global presence beyond the United States. As retailers adapt to modern shopping habits, trends such as Buy Now, Pay Later, social media marketing, and extended promotional periods have reshaped consumer behavior, making Black Friday and Cyber Monday more than just single-day sales events.

**Sentiment Analysis**

Non-Python Analysis

A study analyzing Black Friday-related tweets from 2006 to 2020 found that negative sentiment has grown over time, with frustration over limited inventory, excessive commercialization, and chaotic shopping experiences. However, positive sentiment still emerges around online shopping convenience and major discounts.

More recently, economic uncertainty and inflation concerns have influenced consumer sentiment. Reports indicate that shoppers are more cautious about spending, prioritizing necessities over impulse purchases. At the same time, Cyber Week sales have surged, suggesting a preference for digital shopping over in-store experiences.

Python Analysis

The analysis spanned the 2023/2024 Black Friday/Cyber Monday seasons. Articles were pulled from major outlets including CNBC, NPR, and CNN. All articles have a neutral to positive sentiment depending on the model used. There were no articles scored with a negative sentiment as most articles concentrated on the economics of the shopping season and its growth from year to year. In 2023, online sales hit a record-breaking $9.8 billion, marking a 7.5% increase from the previous year, reflecting the growing preference for digital shopping. Despite the excitement around deals, there was mixed sentiment regarding pricing tactics, as some discounts were not as deep as advertised, prompting shoppers to compare prices carefully. Retailers extended sales periods beyond a single day, Cyber Week deals saw more engagement than in-store shopping, with foot traffic growing by only 1%. Overall, consumers are becoming increasingly strategic, balancing enthusiasm for discounts with a more calculated approach to spending, making Black Friday less impulsive and more data-driven than ever.

**Price Analysis and Data Insights**

To evaluate whether Black Friday and Cyber Monday deals are actually good, we built a dataset of daily Amazon prices for top-selling items in 2023 and 2024. The data spans October through December and includes 18 products across categories like tech, home, toys, and beauty. We calculated descriptive statistics, visualized trends, and built a simple regression model to support our analysis.

Prices were consistently lower during the Black Friday/Cyber Monday window. In 2023, the average product price was $290 compared to just $102 in 2024, likely due to a different mix of items. When looking at just the BF/CM window, average prices were about $11 cheaper than on surrounding days. A bar chart of percent discounts confirmed this. Some products saw discounts of more than 30%, with home and toy categories offering the steepest markdowns.

Then we ran a regression model to predict price based on time, item, and whether it was during the Black Friday/Cyber Monday period. The BF/CM variable had a negative coefficient of -8.47, meaning products were on average $8.47 cheaper during that window, controlling for item and date. The model had an R² of 0.99, suggesting it explained almost all the variation in price.

Line charts also showed that many products dropped in price right around BF/CM and then rebounded shortly after. So while not every deal is exceptional, the overall trend shows that discounts are real and especially for high-demand items in certain categories. From a data standpoint, the answer to our main question is yes: Black Friday and Cyber Monday do offer meaningful price drops.

**References/Data Collected**

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