Sentiment Analysis of Amazon Customer Reviews

Business Intelligence Project (FA-II) - Amazon Fine Food Reviews

Group Members

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Problem Statement

E-commerce platforms face issues of irrelevant search results, poor recommendations, and negative customer experiences which lead to cart abandonment and reduced sales.
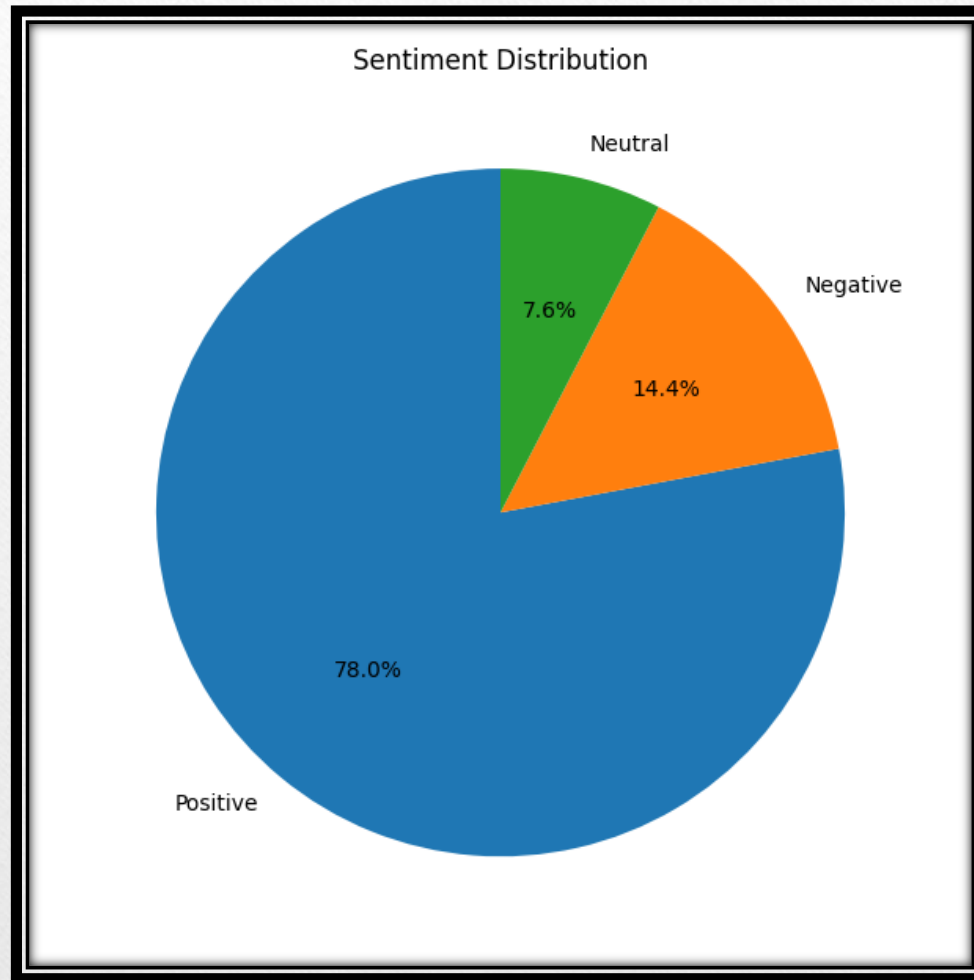
Objective

- Use text mining on customer reviews

- Classify sentiment (Positive/Neutral/Negative)

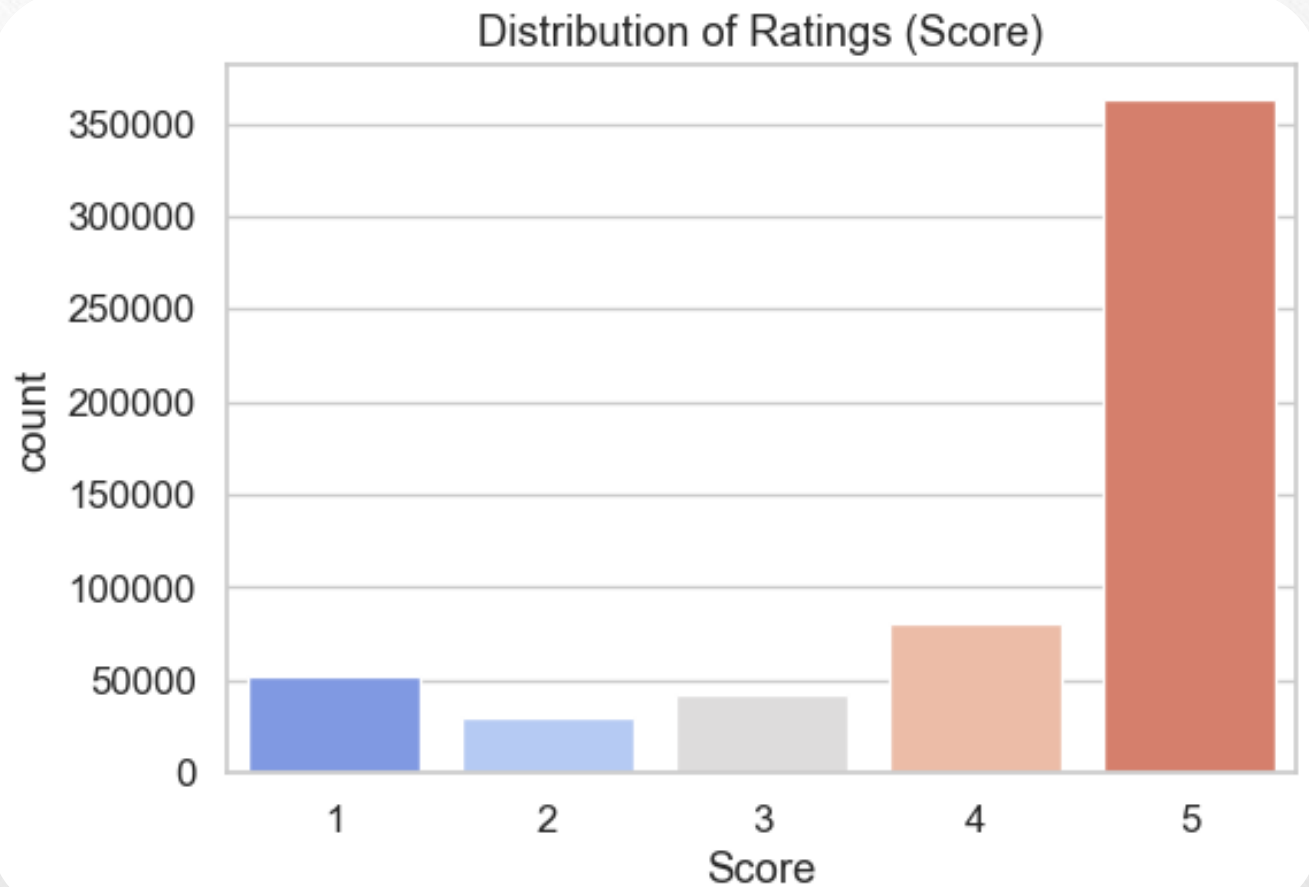- Extract common issues and provide BI insights

Dataset

- Amazon Fine Food Reviews (Kaggle)

- Fields used: Text, Score, Summary, ProductID
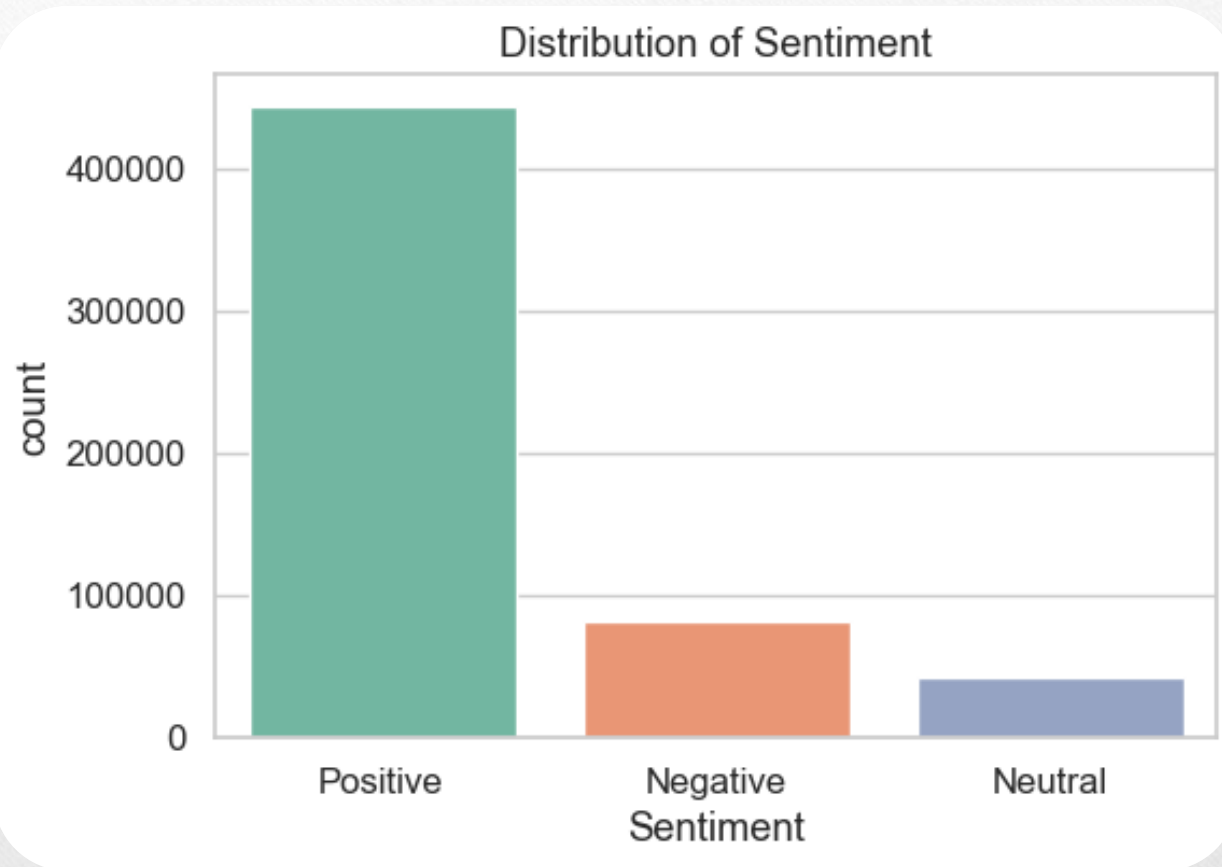
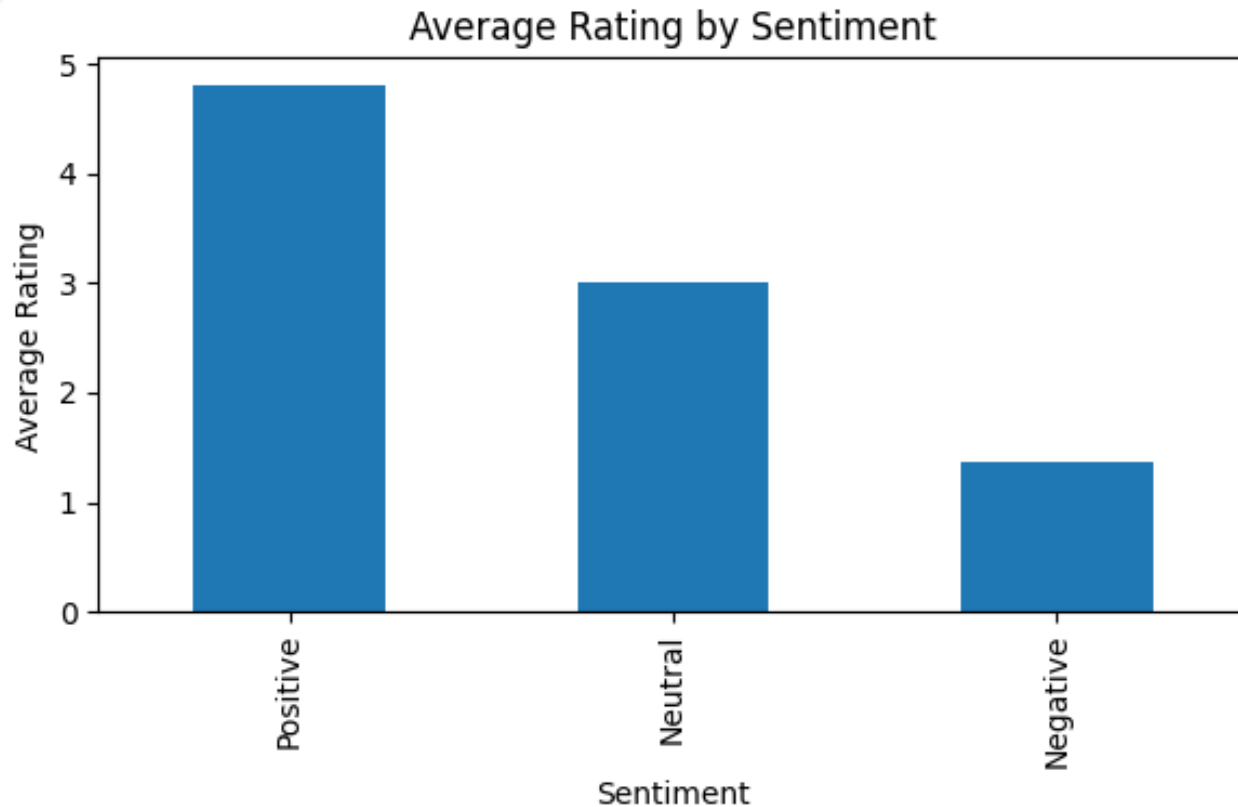- Link - Amazon Fine Food Reviews
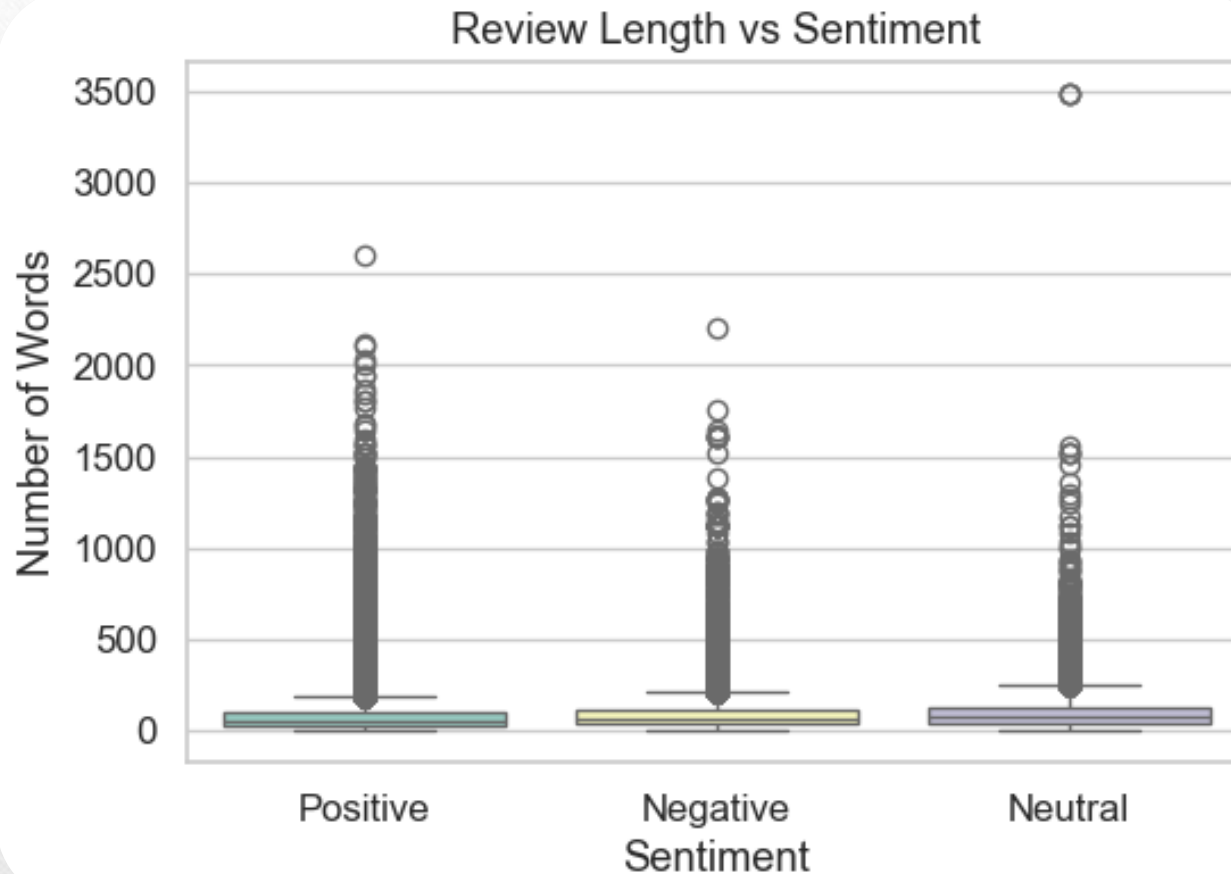
Sentiment Distribution

Distribution of Ratings

Distribution of Sentiment

Average Rating by Sentiment

Review Length by Sentiment

Review Length vs Sentiment

Common Issues in Negative Reviews

Word Cloud of Negative Reviews

Improving Search & Recommendations

Problem: Customers face irrelevant search results and poor product recommendations, leading to a negative experience.

Insight: The vast majority of reviews are positive (78.0%), indicating a strong signal for product quality.

➢ Solution 1: Prioritize and rank products with a higher volume of positive reviews in search results to improve relevance.

➢ Solution 2: Enhance recommendation engines by personalizing suggestions based on a user's past behavior combined with the sentiment of reviews for potential products

Resolving Common Customer Issues

Problem: Negative customer experiences related to product and delivery lead to frustration and lost sales.

Insight: A word cloud analysis of negative reviews shows that common complaints are related to "flavor," "taste," "product," "package," and "box".

➢ Solution: Proactively identify and address recurring issues with product quality (taste/flavor) and fix delivery or packaging problems that are frequently mentioned in negative feedback.

BI Insights

- Rank products with positive reviews higher in search

- Personalize recommendations using review sentiment + behavior

- Fix delivery/packaging issues identified from negative reviews

- Monitor sentiment trend to measure improvements

Conclusion & Future Work

- Text mining + BI gives actionable insights to improve UX and sales.

- Future: Use advanced models (BERT), multilingual analysis, integrate with dashboards.