

CSE 511 Data Processing at Scale - Project Milestone 2 Report

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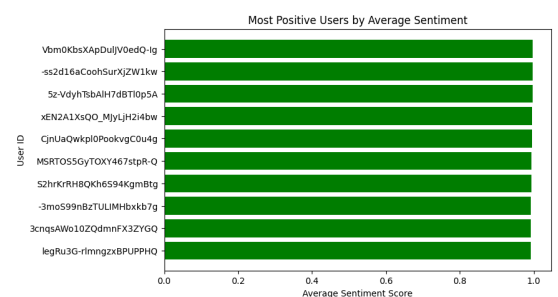
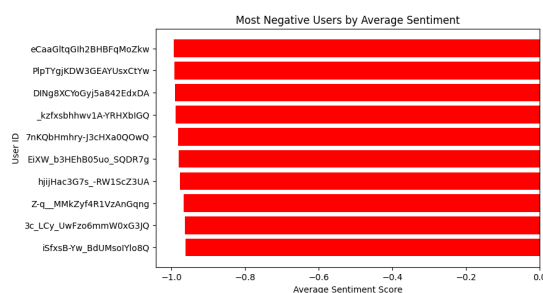
ASU ID: 1229679232

Introduction

This analysis focuses on understanding user behavior, contributions, and influence within the Yelp community for Arizona's "Mobile Phone Accessories" category. By analyzing reviews, tips, and user metrics, the study explores how user activity varies and how user characteristics such as elite status and sentiment impact their contributions. The insights aim to uncover trends in user engagement, sentiment, and influence within this business category.

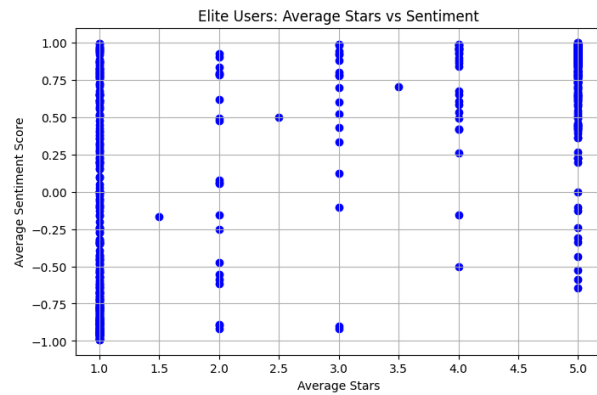
Analysis of Queries

1. Sentiment Analysis:
 - Objective: Compute sentiment scores for user reviews.
 - Results: Sentiment scores ranged from -0.98 to 0.996, reflecting a spectrum of customer satisfaction.
2. Top 10 Users by Review Count:
 - Objective: Identify users contributing the highest number of reviews.
 - Results: The most active users contributed 17,473 reviews, followed by others ranging between 16,567 to 6,679.
3. Average Review Stars per User:
 - Objective: Determine user rating behavior.
 - Results: Many users gave consistently high ratings, with a prominent cluster at 5 stars.
4. Elite vs Non-Elite Users:
 - Objective: Analyze contributions based on elite status.
 - Results: While most contributors were non-elite, elite users provided more balanced and detailed reviews.
5. Top Tip Contributors:
 - Objective: Highlight users providing tips.
 - Results: The top user contributed 4,071 tips, showcasing another form of engagement.
6. Most Positive and Negative Users:
 - Objective: Identify users with consistently positive or negative feedback.
 - Results: Positive users praised attributes like customer service and pricing, while negative users highlighted complaints such as delays or poor service.



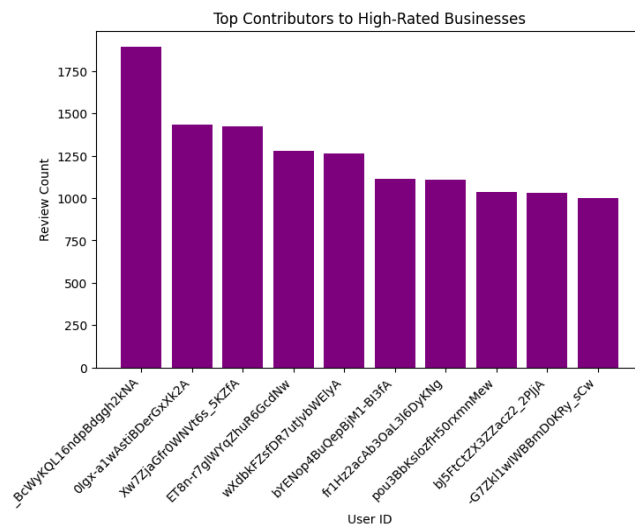
7. Elite Users' Sentiment Trends:

- Objective: Explore correlations between sentiment and ratings for elite users.
- Results: Elite users with high ratings showed positive sentiments, while those with mixed ratings had neutral sentiments.



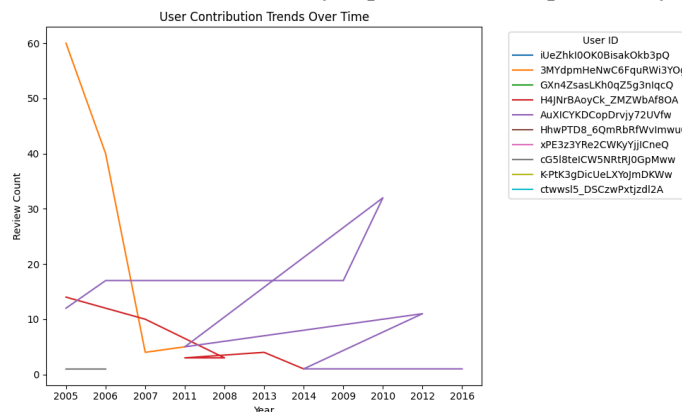
8. Contributors to High-Rated Businesses:

- Objective: Highlight users engaging with businesses rated 4+ stars.
- Results: The most active contributor reviewed 1,894 high-rated businesses.



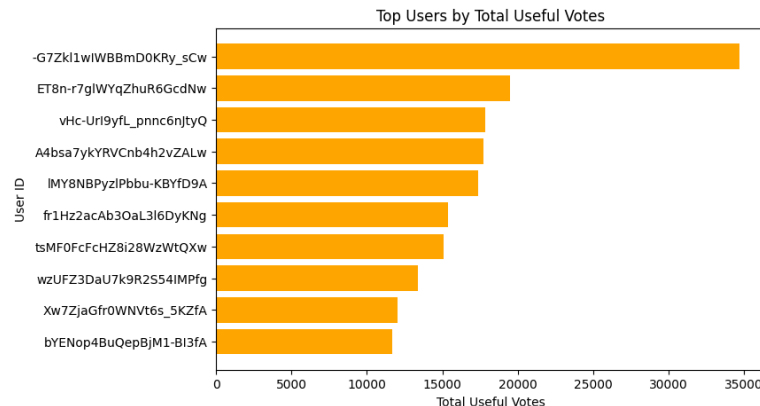
9. User Contribution Trends Over Time:

- Objective: Analyze yearly review trends for top contributors.
- Results: Review activity peaked in specific years and tapered off later.



10. Most Useful Reviews by Users:

- Objective: Identify users whose reviews received the most "useful" votes.
- Results: The top user garnered 34,694 useful votes, underscoring their influence.



Key Observations

1. User Activity:
 - A small percentage of highly active users contribute most reviews, significantly influencing business visibility.
2. Sentiment Trends:
 - Positive sentiment dominates the dataset, aligning with generally favorable customer experiences.
 - Extreme sentiments (positive or negative) provide actionable feedback for businesses.
3. Elite Users' Role:
 - Elite users are consistent and balanced, offering valuable insights that businesses can leverage.
4. Engagement Patterns:
 - Review trends indicate fluctuating engagement levels, influenced by factors like business cycles or platform dynamics.
5. User Influence:
 - Reviews with high "useful" votes are critical in shaping consumer trust and business reputation.

Conclusion

This analysis highlights the importance of understanding user behavior and leveraging influential reviewers within the Yelp ecosystem. Businesses in the "Mobile Phone Accessories" category can strategically engage with elite users and positive contributors to amplify their visibility and customer satisfaction. Sentiment analysis provides deeper insights into customer perceptions, helping businesses address pain points effectively.