

CSE 511 Data Processing at Scale - Project Milestone 1 Report

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Introduction

This analysis focuses on businesses in the "Mobile Phone Accessories" category within the Yelp dataset for the state of Arizona. It leverages data from multiple datasets, including business details, customer reviews, and check-in records, to evaluate performance metrics and engagement trends. The objective is to identify attributes contributing to higher reviews, thriving locations, and customer behaviors that impact business success.

Analysis of Queries

Query 1: Average Star Rating for Mobile Phone Accessories

Purpose: To compute the average star rating of businesses in this category.

Result: The average star rating is **2.893617021276596**, indicating moderate customer satisfaction in this segment.

Query 2: Count of Open vs. Closed Businesses

Purpose: To determine how many businesses are operational versus closed.

Result: There are **37** open businesses and **10** closed businesses.

Query 3: Top Zip Codes by Average Review Count

Purpose: To identify zip codes with the highest customer engagement.

Result: Zip codes **85711** and **85719** have the most reviews with **124** and **120**, driven by high business density and active customer bases.

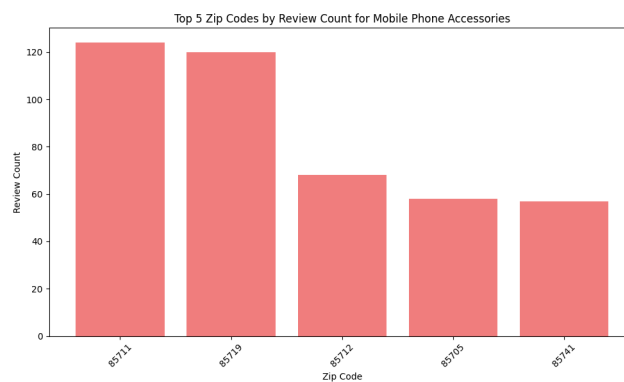


Fig 1: Top Zipcodes with High Average Review Count

Query 4: Businesses with the Most Positive Reviews

Purpose: To find businesses excelling in customer satisfaction through 5-star reviews.

Result: Businesses like uBreakiFix, and T-Mobile are leading in positive reviews, attributed to good service, and attractive pricing.

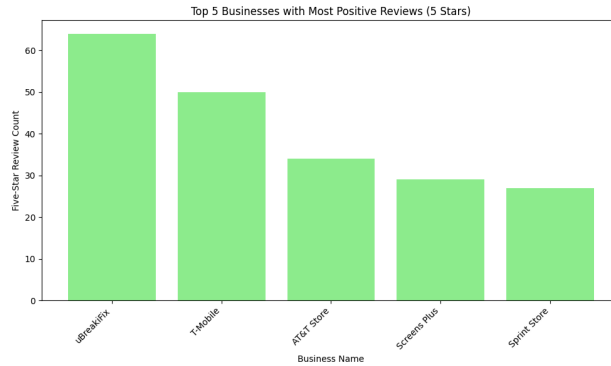


Fig 2: Top 5 Businesses with Highest Positive Review

Query 5: Weekly Check-Ins for Top Businesses

Purpose: To analyze customer footfall trends over time.

Result: The busiest businesses are AT&T Store and T-Mobile, with peak check-ins.

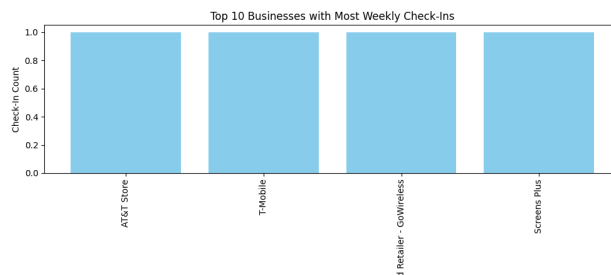


Fig 3: Top 10 Businesses with the Most Weekly Check-ins

Key Observations

- **Customer Satisfaction:** Businesses in this category have an average rating of 2.89, showing moderate satisfaction with room for improvement.
- **Business Status:** Of 47 businesses, 37 are operational, indicating a stable market with low closures.
- **Thriving Locations:** Zip codes 85711 and 85719 lead with the highest review counts (124 and 120), driven by high engagement and business density.
- **Positive Reviews:** uBreakiFix and T-Mobile excel in positive reviews, showcasing strong customer loyalty.
- **Customer Footfall:** AT&T Stores and T-Mobile are the busiest, reflecting consistent customer activity.

Conclusion

The analysis of **"Mobile Phone Accessories"** businesses in Arizona highlights critical insights into customer satisfaction, thriving locations, and engagement trends. While the category shows moderate customer satisfaction overall, businesses such as uBreakiFix and T-Mobile excel in both reviews and customer footfall. Areas like 85711 and 85719 demonstrate strong potential for business growth, driven by high engagement levels. These findings can help businesses refine their strategies to enhance customer experiences and capitalize on high-performing locations. By addressing areas for improvement, this segment can unlock greater potential in a competitive market.