



USER ENGAGEMENT ANALYSIS FOR RESTAURANT SUCCESS



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About Yelp

YELP, STARTED IN 2004, IS A POPULAR PLATFORM THAT HELPS PEOPLE FIND AND REVIEW LOCAL BUSINESSES. USERS CAN READ AND WRITE REVIEWS, RATE BUSINESSES, AND SHARE THEIR EXPERIENCES. WITH MILLIONS OF REVIEWS WORLDWIDE, YELP IS A TRUSTED GUIDE FOR DISCOVERING GREAT PLACES TO EAT, SHOP, AND MORE. IT ALSO HELPS BUSINESSES ATTRACT NEW CUSTOMERS BY INCREASING THEIR VISIBILITY ONLINE.

research objectives



ANALYZE THE IMPACT OF SENTIMENT ON REVIEW COUNT AND AVERAGE STAR RATING.



TIME TRENDS IN USER ENGAGEMENT.



QUANTIFY THE CORRELATION BETWEEN USER ENGAGEMENT (REVIEWS, TIPS, CHECK-INS) AND REVIEW COUNT/AVERAGE STAR RATING.

Hypothesis

- HIGHER LEVELS OF USER ENGAGEMENT (MORE REVIEWS, TIPS, AND CHECK-INS) CORRELATE WITH HIGHER REVIEW COUNTS AND RATINGS FOR RESTAURANTS.
- POSITIVE SENTIMENT EXPRESSED IN REVIEWS AND TIPS CONTRIBUTES TO HIGHER OVERALL RATINGS AND REVIEW COUNTS FOR RESTAURANTS.
- CONSISTENT ENGAGEMENT OVER TIME IS POSITIVELY ASSOCIATED WITH SUSTAINED BUSINESS SUCCESS FOR RESTAURANTS.

Data Overview

- THIS DATASET IS A SUBSET OF YELP AND HAS INFORMATION ABOUT BUSINESSES ACROSS 8 METROPOLITAN AREAS IN THE USA AND CANADA.
- THE ORIGINAL DATA IS SHARED BY YELP AS JSON FILES.
- THE FIVE JSON FILES ARE BUSINESS, REVIEW, USER, TIP AND CHECKIN.
- THE JSON FILES ARE STORED IN THE DATABASE FOR EASY RETRIEVAL OF DATA.

Analysis and Findings

- Out of 150k businesses, 35k are restaurants business and are open.



avg_review_count	87.001640
min_review_count	5.000000
max_review_count	6093.000000
median_review_count	15.000000
avg_rating	3.515132
min_rating	1.000000
max_rating	5.000000
median_rating	3.500000

Top 10 Highest Rating

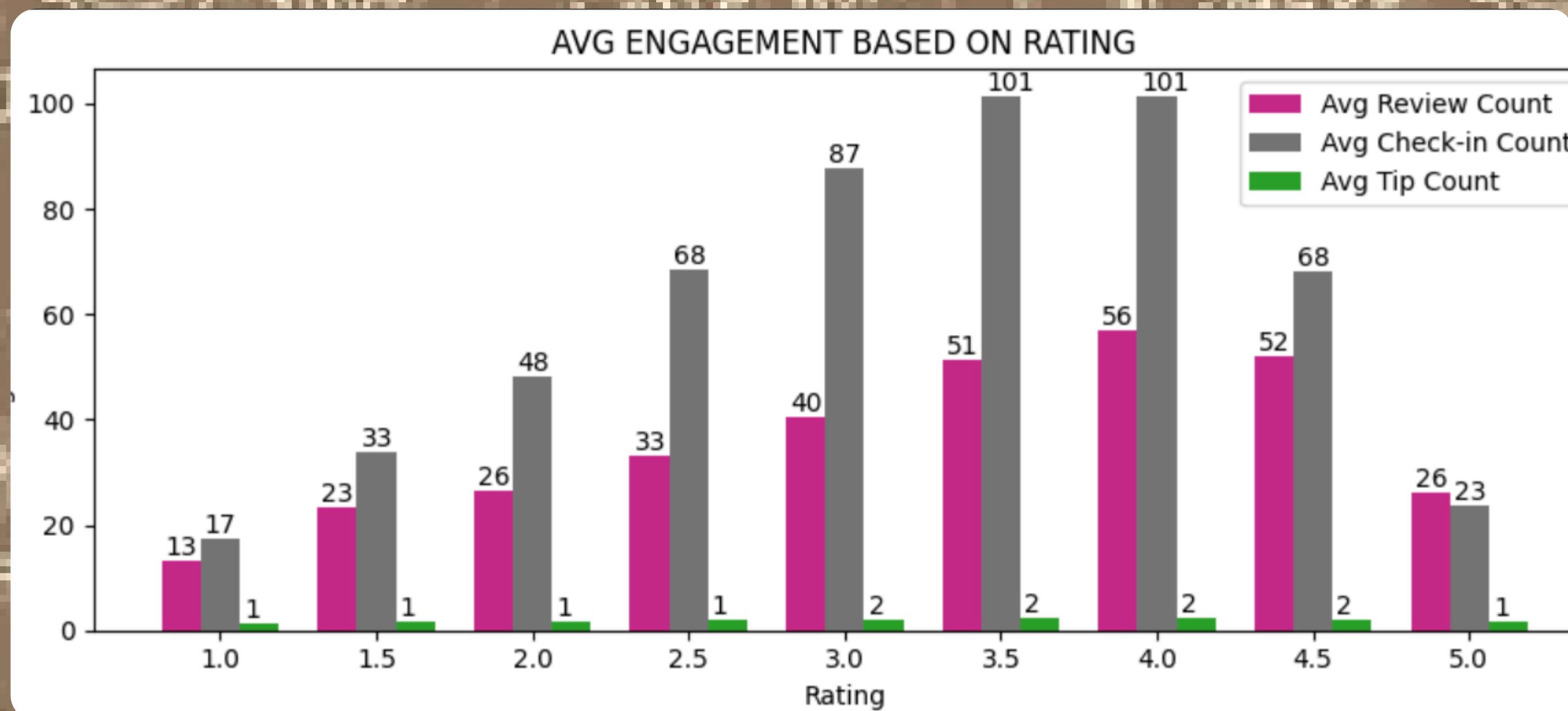
name	review_count	avg_rating
â café	48	5.0
brewers cabinet production	13	5.0
la 5th av tacos	24	5.0
john klahr's Signature BBQ	9	5.0
eat.drink.Om...YOGA CAFE	7	5.0
cabbage vegetarian cafe	12	5.0
aguá bistro	25	5.0
a Italian Kitchen & Catering	22	5.0
Zlatno Zito	36	5.0
Zlatne Kapi	11	5.0

Top 10 Highest Review Count

name	review_count	avg_rating
McDonald's	11208	
Chipotle Mexican Grill	6888	
e B's Hot Chicken - Nashville	6093	
First Watch	6086	
Taco Bell	5730	
Chick-fil-A	5368	
Royal House	5070	
Ruby Slipper Cafe	5012	
Buffalo Wild Wings	4914	
Commander's Palace	4876	

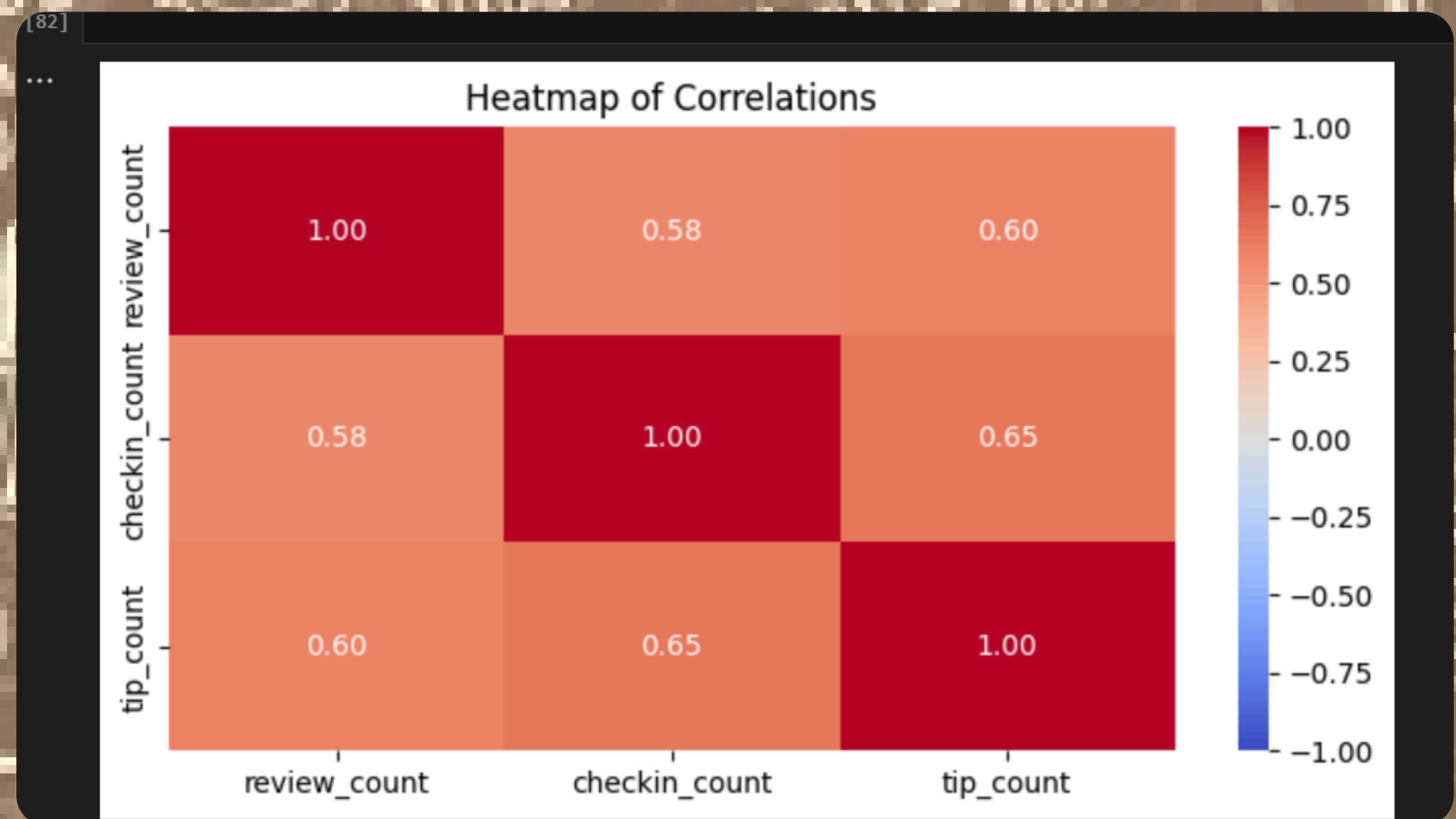
Review count reflects user engagement but not necessarily overall customer satisfaction or business performance.

Do restaurants with higher engagement tend to have higher ratings?



Data shows a general increase in average review, check-in, and tip counts as ratings improve from 1 to 4 stars.

Is there a correlation between the number of reviews, tips, and check-ins for a business?



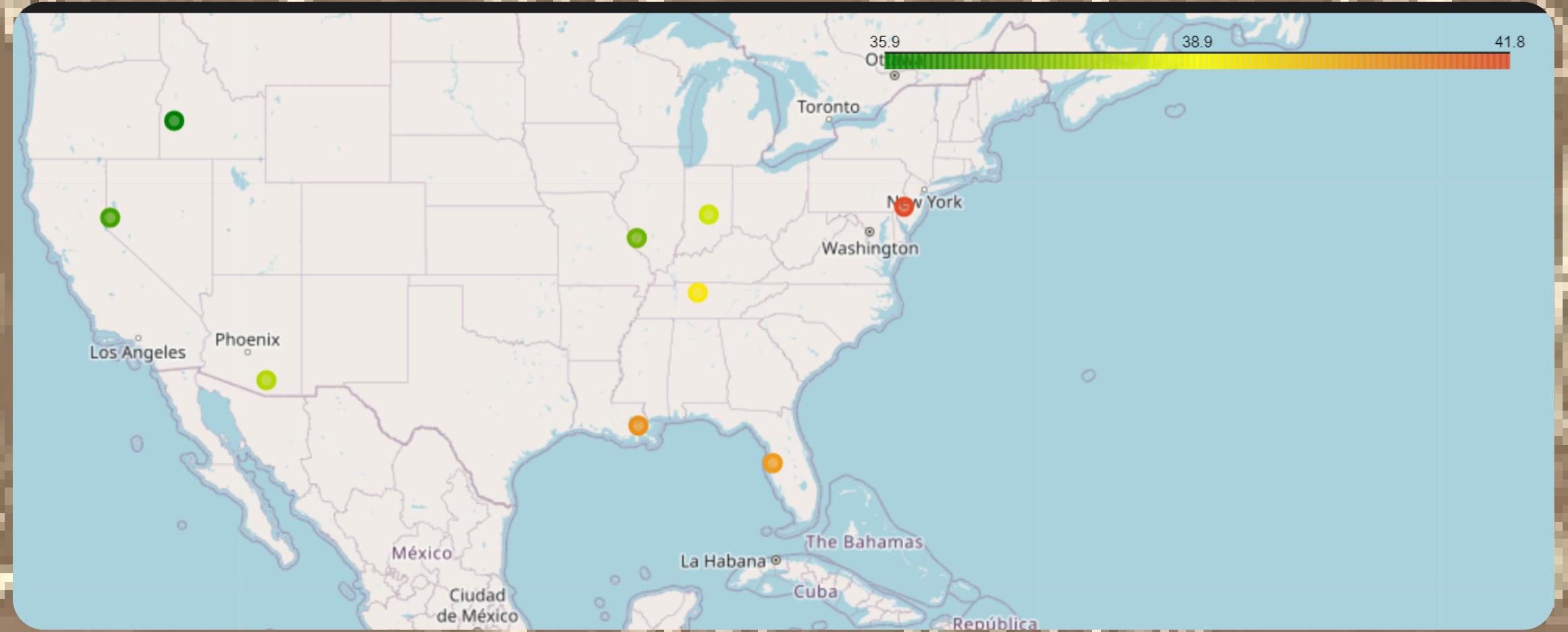
These correlations suggest that user engagement across different platforms (reviews, tips, and check-ins) is interlinked; higher activity in one area tends to be associated with higher activity in others.

Is there a difference in the user engagement between high-rated and low-rated businesses?

category	review_count	checkin_count	tip_count
High-Rated	131.180245	319.478723	3.020275
Low-Rated	59.056013	181.451952	2.019429

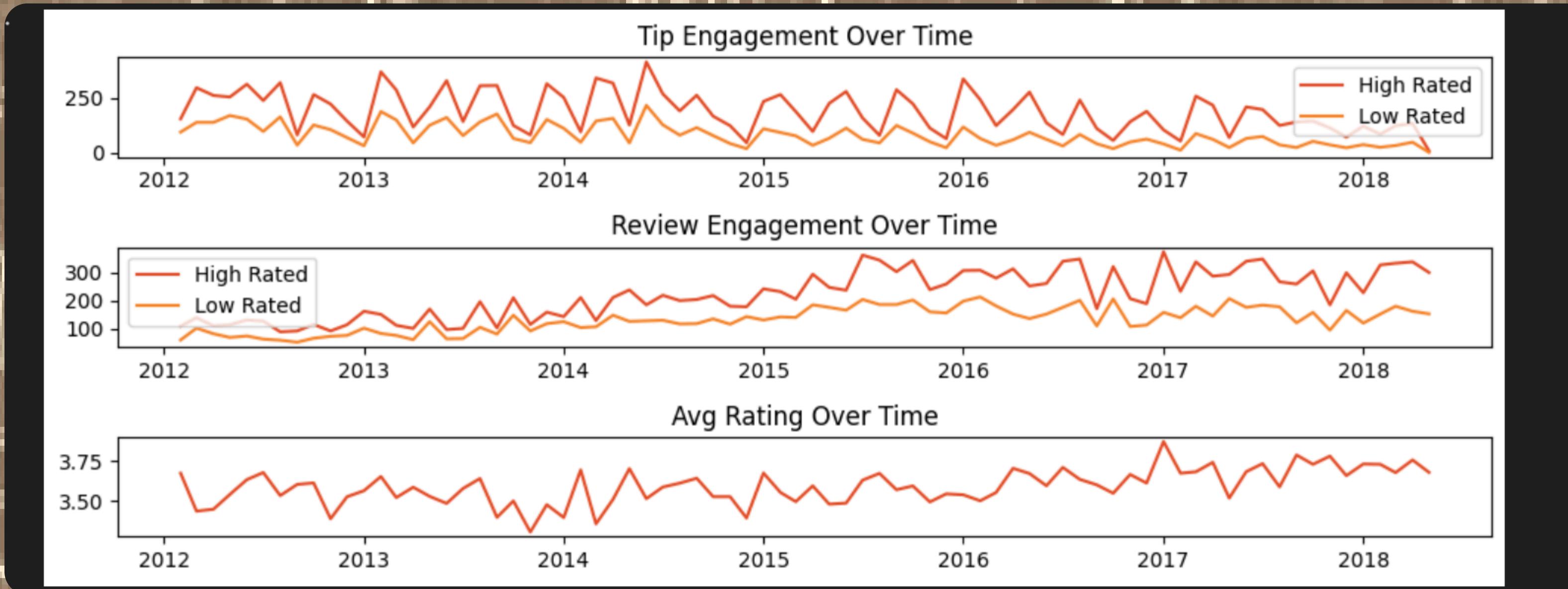
Data indicates a clear correlation between higher ratings and increased user engagement across reviews, tips, and check-ins.

How do the success metrics of restaurants vary across different states and cities?



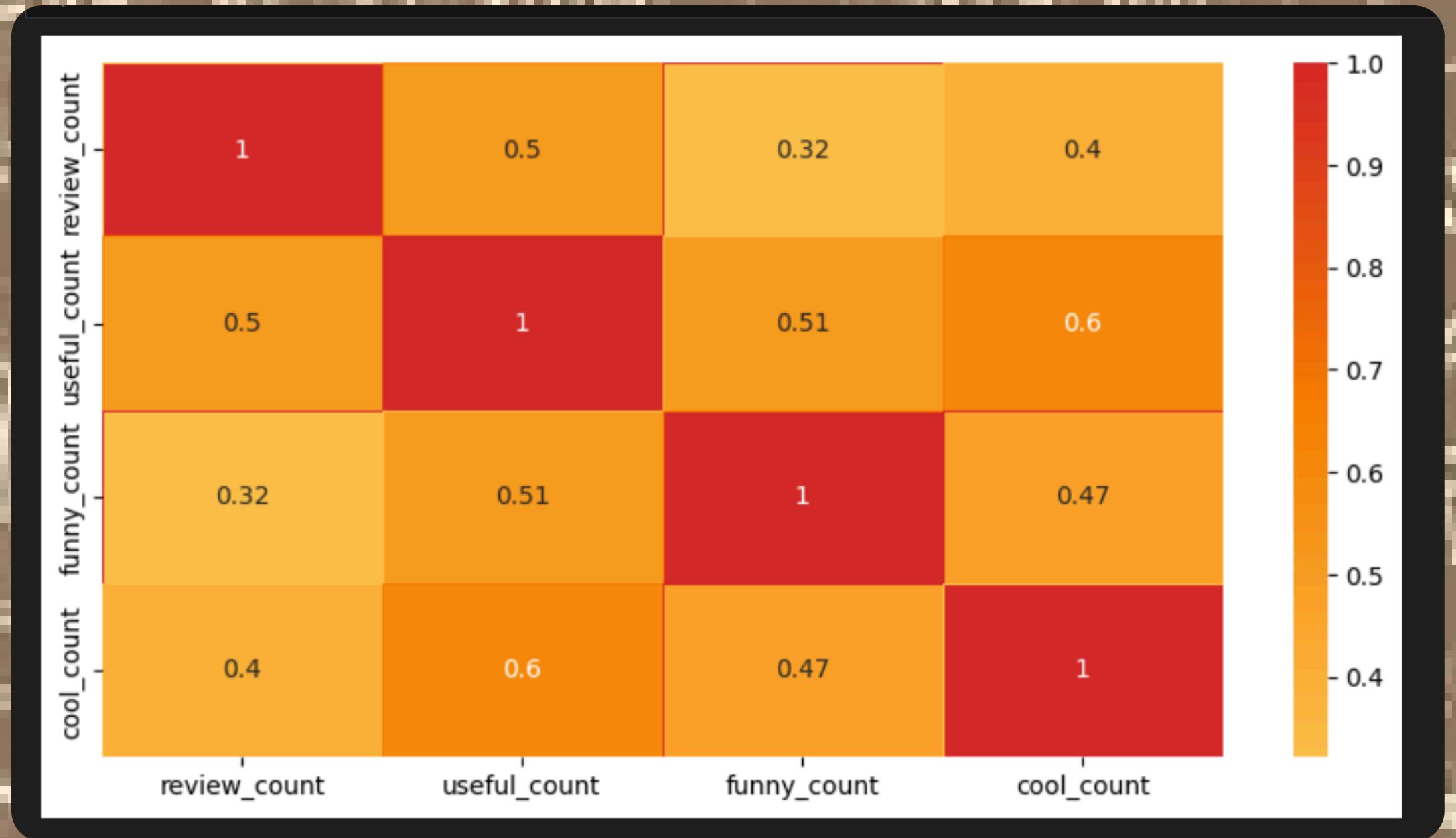
- Philadelphia emerges as the top city with the highest success score, indicating a combination of high ratings and active user engagement.

Are there any patterns in user engagement over time for successful businesses compared to less successful ones?



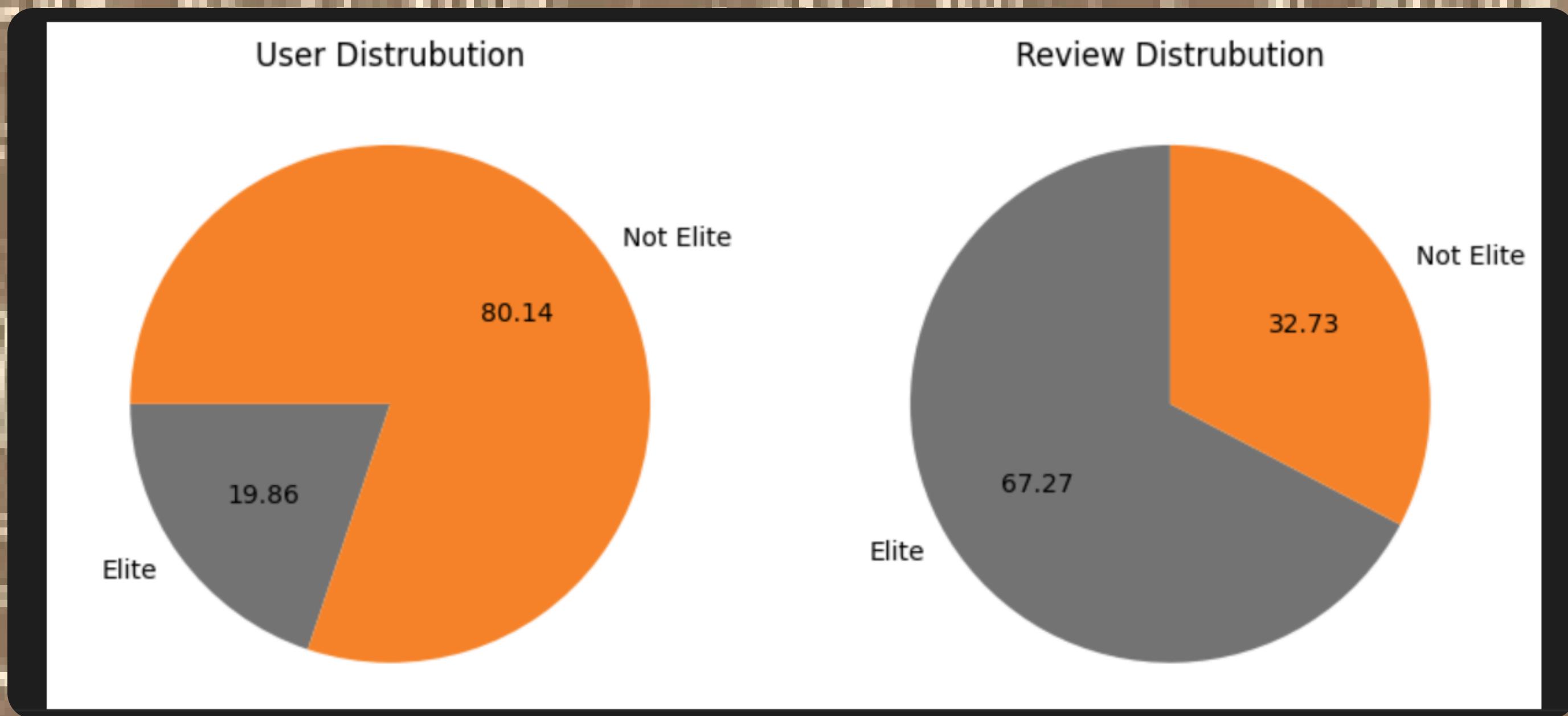
Successful businesses, particularly those with higher ratings (above 3.5), exhibit consistent and possibly increasing user engagement over time.

How does the sentiment of reviews and tips (useful, funny, cool) correlate with the success metrics of restaurants?



- "useful," "funny," and "cool" are attributes associated with user reviews. They represent the feedback provided by users about the usefulness, humor, or coolness of a particular review.

Is there any difference in engagement of elite users and non-elite users?



Elite users are individuals who have been recognized and awarded the "Elite" status by Yelp for their active and high-quality contributions.

Busiest Hours

ADD COMPANY NAME

The busiest hours for restaurants, based on user engagement, are from 4pm to 1am. The graph shows the tip engagement, which peaks during these hours.



Recommendations

- **Analyze data to make informed decisions.** Utilize insights from various metrics such as user engagement, sentiment of reviews, peak hours, and the impact of elite users to make informed decisions to drive success.
- **Leverage the influence of elite users.** Collaborating with elite users and leveraging their influence can amplify promotional efforts, increase brand awareness, and drive customer acquisition.
- **Capitalize on peak hours.** Businesses can adjust their operating hours or introduce special promotions to capitalize on the increased demand during peak hours.

Thank you

