AZUL GOOGLE REVIEWS ANALYSIS

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WHY ANALYZE GUEST FEEDBACK?

As the main stakeholders and customers of our business, analyzing guest feedback is vital to build long-term loyalty and grow profits. We can do so by identifying trends in these reviews in order to find areas of improvement. A study performed by Michael Anderson and Jeremy Magruder, professors at the University of California, Berkeley, concluded that positive reviews have a direct correlation to increases in foot traffic during peak times. They found that a ½-star rating increase resulted in a 30-40 percent increase in the number of 7 pm bookings.

1. Seize Opportunities for Improvement
2. Direct actionable insights
3. Start a dialogue with guests
4. Accountability between different groups
5. It is valuable unsolicited feedback at no cost.

DATASET COLUMNS

author: This column contains the name or identifier of the person who wrote the review.
review_body: This column contains the text of the review where the author shares their thoughts and experiences about the restaurant or dining experience.
review_rating: This column represents the numerical rating given by the author to the restaurant or dining experience. 1 being the lowest and 5 being the highest.
calculated_datetime: This column contains the date when the review was published or recorded. The date is in the format MM/DD/YY (month/day/year).
food_rating: This column represents the numerical rating given by the author specifically for the quality of the food served at the restaurant from 1 to 5.
service_rating: This column represents the numerical rating given by the author specifically for the quality of the service provided at the restaurant on a scale from 1 to 5.
atmosphere_rating: This column represents the numerical rating given by the author specifically for the atmosphere or ambiance of the restaurant on scale from 1 to 5.
dining_time: This column contains information about the time of day when the dining experience took place, such as "Dinner."

GUIDING QUESTIONS

- How do overall ratings relate to atmosphere, food and service ratings?
- Do dining time reviews show any trends?
  - Brunch vs. Lunch vs. Dinner?
- Analyzing sentiment review on body of the review
  - Negative sentiment positive reviews? Vice Versa.
  - Frequent words?

RESULTS AND RECOMMENDATIONS

FOOD, SERVICE AND ATMOSPHERE RATING

Category Ratings Based on Overall Rating

	atmosphere_rating	food_rating	service_rating
1	2.00	2.00	1.75
2	3.50	2.00	2.50
3	3.91	3.18	3.45
4	4.36	4.20	4.32
5	4.90	4.92	4.87
Overall	4.69	4.64	4.62

Finding links between overall ratings and individual category ratings is a way to seize opportunities for improvement in certain categories of our operation. By grouping them by overall rating we can see how each overall review rating translates to a categories average rating.

- Food and Service areas have the lowest means out of all the categories for each rating.
  - Focus on improving experience for negative customers in these two areas
    - Negative experience for customers theoretically <= 2 Stars
  - Analyze body reviews with insight on food and service
    - Filter for reviews speaking beyond one incidental negative experience.

BRUNCH, LUNCH AND DINNER RATING

Ratings By Dining Times
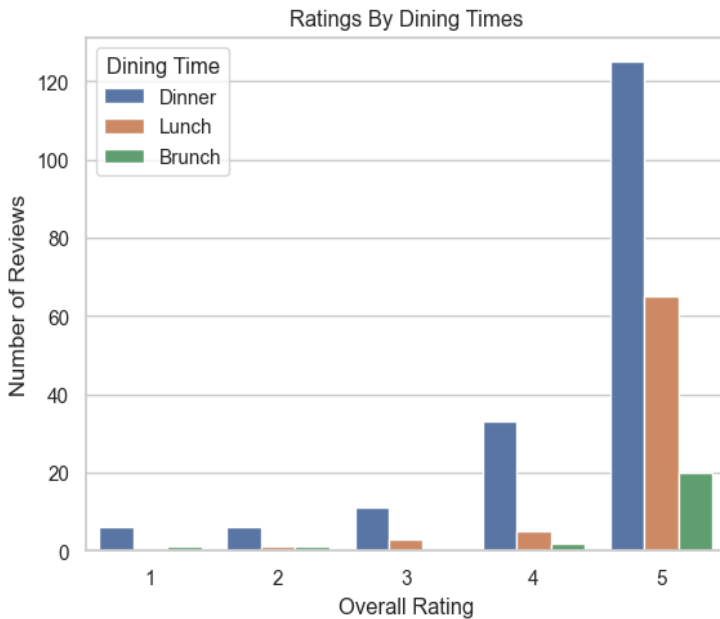
review_rating	1	2	3	4	5
dining_time					
Brunch	4.17%	4.17%	0.00%	8.33%	83.33%
Dinner	3.31%	3.31%	6.08%	18.23%	69.06%
Lunch	0.00%	1.35%	4.05%	6.76%	87.84%

dining_time	Brunch	Dinner	Lunch
Avg Rating	4.625	4.464088	4.810811

	dining_time	Normalized_Count	Counts
0	Dinner	0.648746	181
1	Lunch	0.265233	74
2	Brunch	0.086022	24

Analyzing dining time comes with a critical consideration based on the graph. There are far more reviews with records in the dinner category than any others. With this in mind the small sample only called for total averages and grouped averages for each dining time.

- Lunch performance is consistently high!
- Most efforts should focus on catering towards dinner clients and night-time guests if we are taking into account the volume of our guests reviewing for dinner.
    - Highest count, lowest overall ratings
- Investigate review bodies for "Brunch" and "Dinner" apart from the dining_time google review tags
    - Brunch has 8% of 24 reviewers in the 1 and 2 start categories.

Review Ratings Over Past Year

For the time-series analysis I did, one trend stuck out while observing the ratings over the past year. During May – July there is a dip so I investigated further with means and statistics.

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The Mean Review Rating is: 4.54
The Mean Beginning of Summer (May - July Inclusive) Review Rating is: 4.41
The Percent Decrease during this time is: 2.86
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- Dip in reviews overall in the data set during these months. A ~ 3% decrease.
  - Consider streamlining the operational transition between spring and summer
  - Patio and staffing considerations during this time
  - Read review body of low reviews during this period

Sentiment Correlation vs. Review Rating

This chart confirms a trend we expect. As the sentiments and negativity of a review goes up the review rating is low. The opposite is true with the positive correlation line.
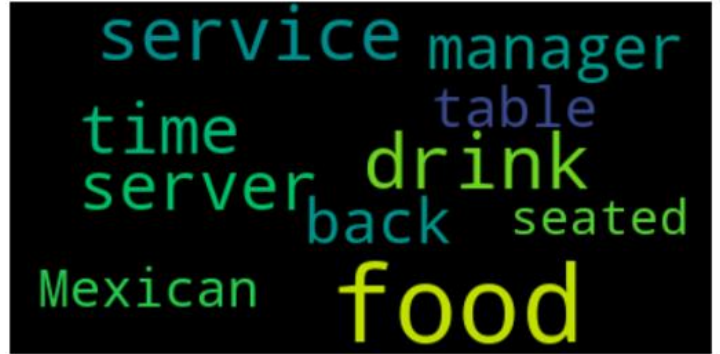

Sentiment Correlation vs. Review Rating
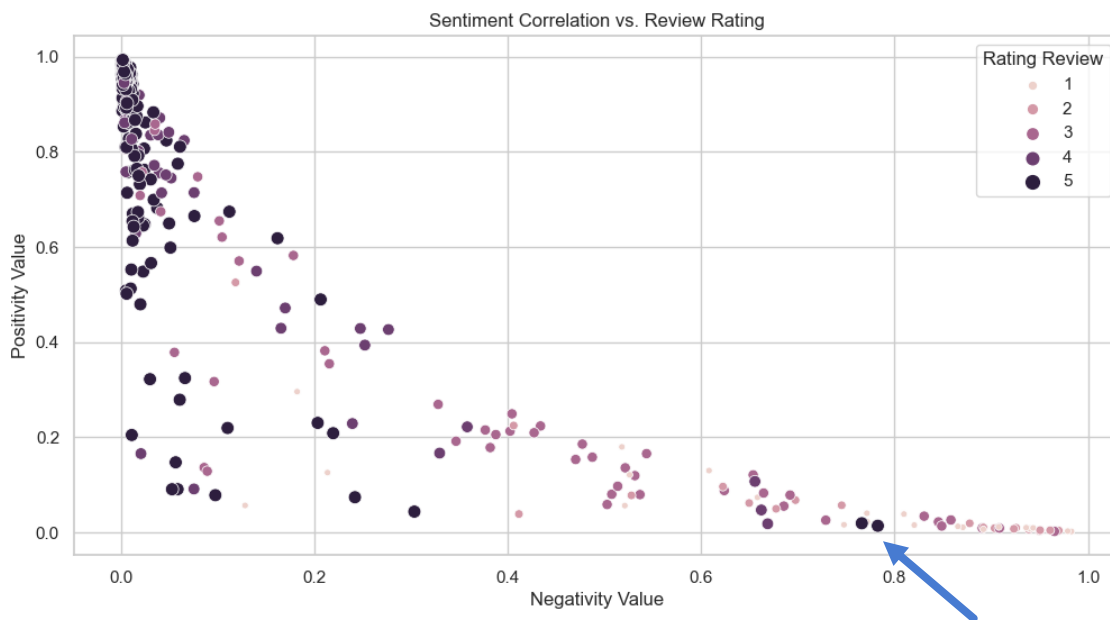
Viewed in a scatterplot, we can start to pick out certain data points that are of interest such as the points with high review ratings but high negativity values.

- There are 21123 words in the combination of negative review.
  - Neg Value > .5

- There are 16320 words in the combination of negative review.
  - Review Rating <= 2

Looking at only the negative word cloud is room for improvement for negative reviewers.

- Analyze negative reviews and parse for these words in order to see how we can improve in these most common ways.

READ THROUGH THE LIST OF OPPOSING REVIEW VALUES

- List of all reviews sorted from highest negativity to lowest

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ID: 38
Review Rating: 1
Roberta Neg: 0.9829794764518738
Review Body: Manager did not allow us to sit because we changed tables from the bar to regular seating. Clowns. This place is
disgusting. Horrible service. Do not reccomend


ID: 761
Review Rating: 1
Roberta Neg: 0.9790721535682678
Review Body: Food tasted subpar. Got food poisoning immediately after. Will never go there again.


ID: 244
Review Rating: 2
Roberta Neg: 0.9697834253311157
Review Body: Horrible service. Horrible food. It was a complete waste of time and waste of money. I had my hopes up to eat authentic
Mexican food. I'm not sure if this is some sort of Mexican fusion establishment but it is definitely not what I expected. They serve
Asada with mashed potatoes and green beans! The salsa in comes one way and that is mild. I was really hoping to like this place, but
I was let down. Seating is a little cramped towards the back of the restaurant.


ID: 663
Review Rating: 3
Roberta Neg: 0.9653684496879578
Review Body: Disappointed. They do not allow dogs on the patio.
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- List of reviews **4 star or higher** sorted by highest **negativity** ratings

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ID: 943
Review Rating: 5
Roberta Neg: 0.7661157250404358
Review Body: I am sad. I used to order the carne asada all of the time, either on the salad or the entree. My waitstaff recently indicated
to me that it is not gluten free. Historically, however, I had asked at least a few times over the years if it was, and servers had always
indicated it was. I don't know if this is actually a new thing or my previous servers told me incorrect information. So, beware, the carne
asada is NOT gluten free, even if you've ordered it for years. Dietary restrictions: Carne asada is not gluten free. There are a handful
of gluten free items, but that is not one of them.


ID: 1021
Review Rating: 4
Roberta Neg: 0.668793261051178
Review Body: Quality, an infrequent visitor unfortunately because of the little on


ID: 735
Review Rating: 4
Roberta Neg: 0.6622179746627808
Review Body: Good food, but doesn't match the price point, average servic


ID: 798
Review Rating: 4
Roberta Neg: 0.6555929780006409
Review Body: In all fairness, I know allot of people who absolutely love this place. As for myself, I feel its only decent at best. The
inside of the restaurant does have a nice well polished, upscale feel, but that's where the fun stops for me. Long wait times, overpriced
mediocre food and drinks, and poor service is what will prevent me from going back in the future. People can throw their money and time at
this place, mine will be spent at another restaurant down the street.
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- List of reviews **2 star or lower** sorted by highest **positivity** ratings

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ID: 943
Review Rating: 5
Roberta Neg: 0.7661157250404358
Review Body: I am sad. I used to order the carne asada all of the time, either on the salad or the entree. My waitstaff recently indicated
to me that it is not gluten free. Historically, however, I had asked at least a few times over the years if it was, and servers had always
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