Zomato Bangalore Restaurants

Business problem:

- Ratings and reviews play a very important role in attracting and retaining new customers.
- Our target would be **improving ratings** based on the insights and based on these factors **predict ratings** for a prospect restaurant.
- Understand what people like the most in a highly rated restaurant, in a particular locality, which are related to ratings for a prospect restaurant.
- Have an **insight of approx_cost** which is based on many factors like neighborhood, restaurant type which can be related to ratings.
- Given a locality, a prospect restaurant can have an insight of the factors to get the best rating.
- Marketing strategies like personalized notifications, discounts etc. can be set up.

Clients:

- Potential clients would be **existing Zomato restaurant owners** and **prospects restaurants.**
- Having insights on factors ratings could help the decision makers take actions which would eventually increase the ratings and clients.

Data extraction:

- The data is extracted from the Zomato website using the Python package '**Beautiful Soup**'.
- This data is for all restaurants of Bangalore city which is around 12k-13k of records, pulled as of January 2020.
- Following are the fields
    1. restaurant_link: Link for the restaurant
    2. restaurant_ID: Unique restaurant id
    3. restaurant_name: Name of the restaurant
    4. locality: neighbourhood of the restaurant
    5. restaurant_category: Category of restaurant based on what food they serve, like dining or quick bites, etc.
    6. zomato_gold: Whether the restaurant provides zomato gold benefits
    7. discounts: Discounts offered by the restaurant
    8. photos_taken: Number of photos taken at the restaurant
    9. rating: Zomato rating
    10. votes: Votes for the ratings or reviews
    11. cuisines: Type of cuisines served

12. approx._cost_for_2: Approx cost for 2 people
13. opening timings: Opening and closing timings of the restaurant
14. address: Detailed address of the restaurant
15. latitude: Latitude of restaurant
16. longitude :Longitude of the restaurant
17. more_info: main features or services provided by the restaurant like delivery, outside seating, etc
18. featured_in: Featured in which categories of Zomato collections
19. most_liked_food: Most liked or famous for in food items and rating
20. most_liked_service: Most liked service of the restaurant and rating
21. most_liked_look&field: Most liked, look and feel of the restaurant and rating
22. reviews: Reviews available on the first page of the restaurant along with time of review posted and sentiments.

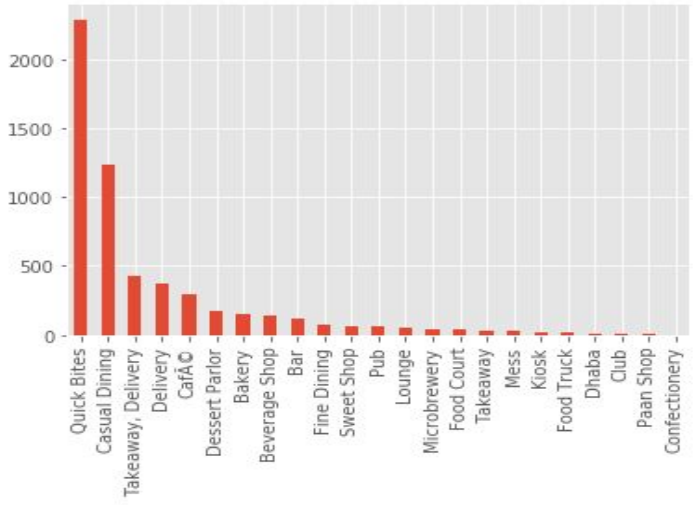
Reference:https://github.com/Anandpatil412/DSC/tree/master/CapstoneProject1/DataExtraction(WebZomato)

Data cleaning:

- Most of the data is cleaned while scraping.
- Some columns are manipulated to tuples.
- Opening and closing timings are transformed to datetime formats.
- Missing values are transformed to np.NAN
- Duplicates rows, if any, are removed based on the restaurant_id.
- No outliers.

Findings from EDA:

Different restaurant categories

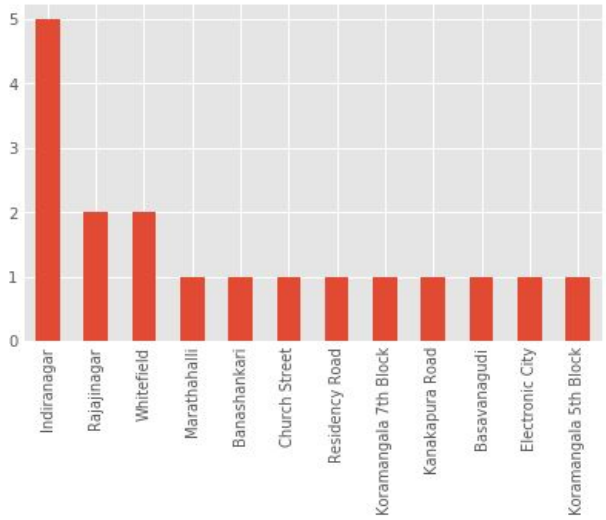


- **Quick bites** and **Casual dining** are the most common restaurant categories.

Unique cuisines

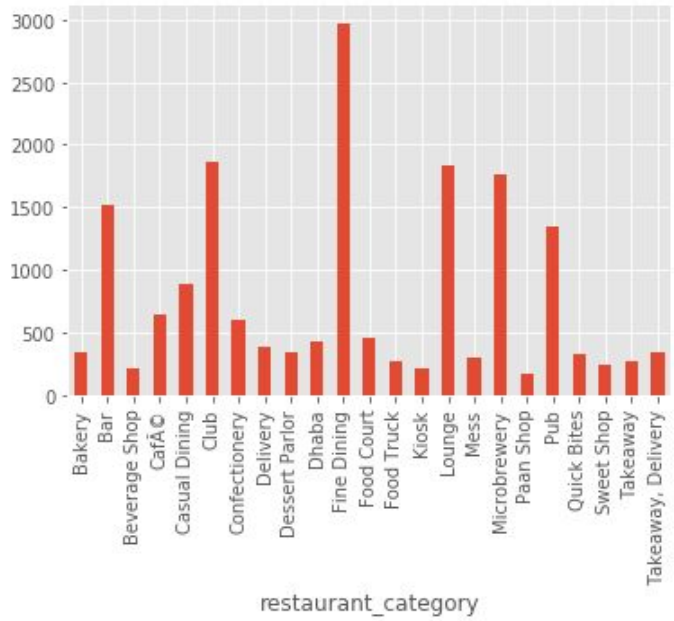
· **Raw meat** and **Nepalese** are the most unique cuisines found.

Locality having maximum restaurants



· **Indiranagar** has the maximum number of restaurants.

Restaurant category having highest cost for 2

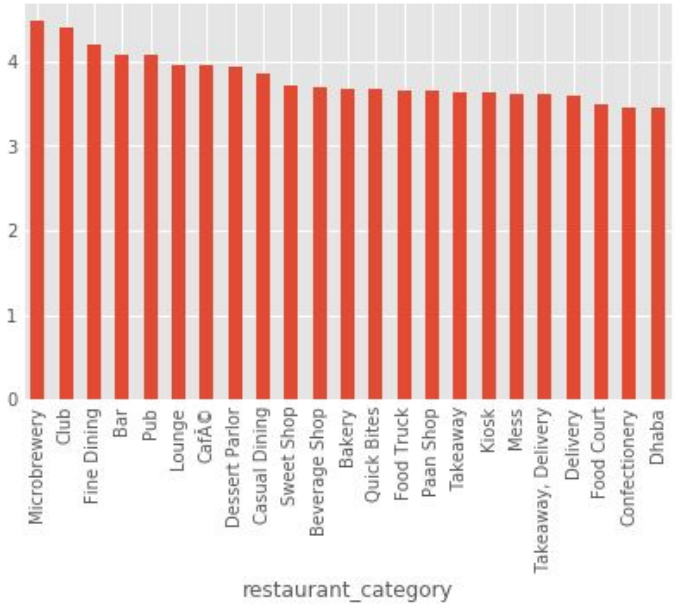


· **Fine Dining** category has the highest cost for 2.

Locality having highest average rating

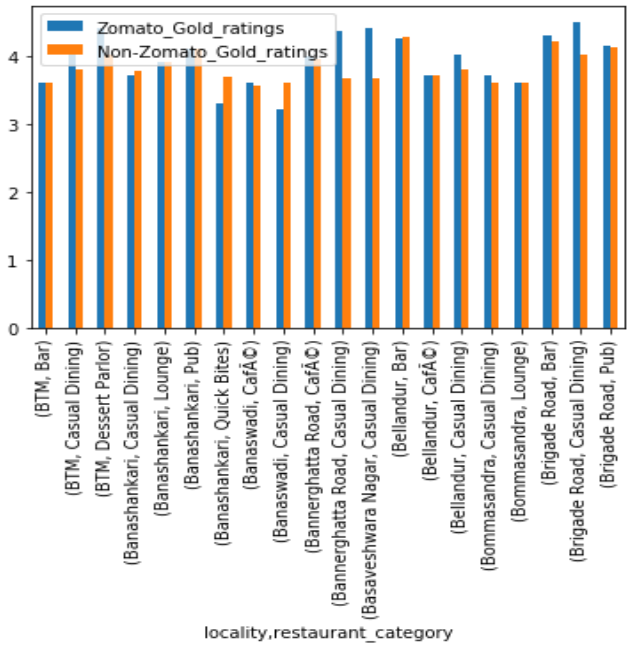
· **Sankey road** and **Lavelle road** have the highest average restaurant ratings.

Restaurant category having highest and lowest average rating



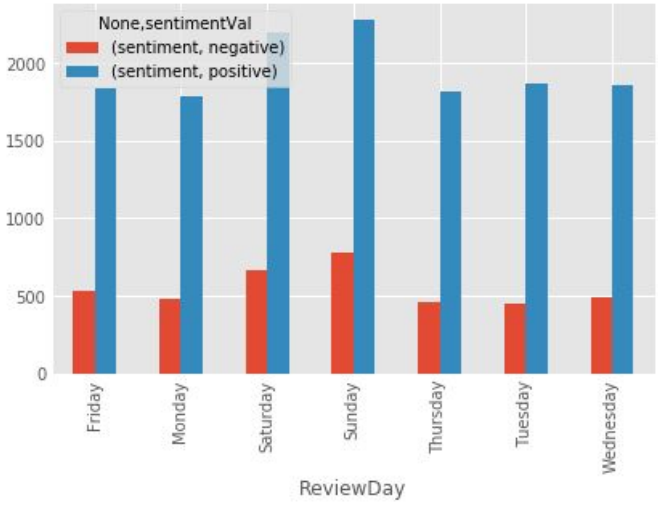
· **Microbrewery** has the highest while Dhaba has the lowest average restaurant rating.

Comparison of avg ratings of Zomato Gold and Non Zomato Gold restaurant locality wise



· Average ratings of Zomato Gold restaurants seem higher than the Non Zomato Gold restaurants.

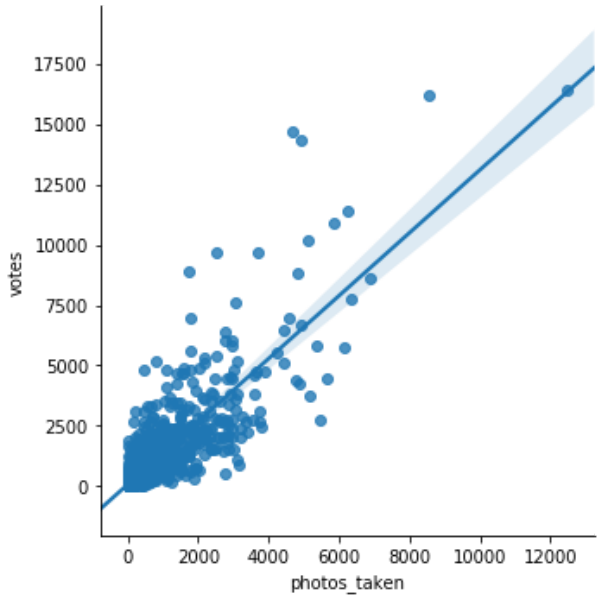
Comparison of Positive and Negative Sentiments for days of a week



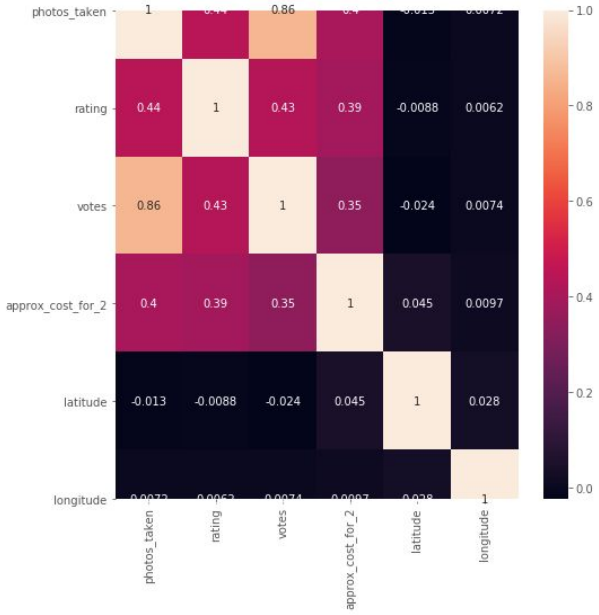
· There seem more positive sentiments than negative,weekends being the highest.

Reference:https://github.com/Anandpatil412/DSC/tree/master/CapstoneProject1/DataWrangling

Correlations and conclusions:



· There is a high positive correlation between photos_taken and votes, which indicates there is more voting from people who take photos.So factors like ambience, food presentation etc play a very important role in contributing votes.



· Null hypothesis tests on correlation between approx_cost_for_2 and ratings come to a conclusion that there is definitely a positive correlation between the two,which indicates people highly rated restaurants are expensive.

- Null hypothesis tests on comparing zomato gold ratings over non zomato ratings come to a conclusion that restaurants having Zomato gold have higher ratings than the one which don't have.