Track Name- Track B Analytics using python

Team Name- Team Unstoppables

Problem Statement: Analyse restaurants in Bangalore using Zomato data

Introduction:

This project is to perform exploratory data analysis on the Zomato dataset. Zomato is an Indian restaurant search and delivery service provider which was founded by Deepinder Goyal and Pankaj Chaddah. It currently operates in 24 countries. The dataset has been taken from Kaggle. The basic idea is to get a fair idea about the factors affecting different type of restaurant at different places in Bengaluru, aggregate rating of each restaurant, Bengaluru is a city which has more than 12000 restaurants. Most importantly this analysis will help new restaurants to decide their menu, location, cost, cuisine etc.

Detailed Working:

* **IMPORTING LIBRARIES-** For data visualisation, we need to import the libraries in code file such as Pandas, numpy, Seaborn, Matplotlib, Sklearn, Plotly, Dexplot and Tqdm.
* **DOWNLOADING THE DATASET**- The next step is to unpack the dataset and read it.
* **BASIC DATA UNDERSTANDING**- The next step is to understand the data by checking data types of the columns which we are interested to work with. While checking we must change the variables of the columns from object to integer if we have to perform analysis on them.
* **DATA CLEANING AND DATA MANIPULATION**- It is important to clean unwanted data from the data set so that the analysis can be performed smoothly. For which we need to ensure that there are no duplicate values in the data set and also remove unwanted data columns like URL, address, phone no., remove duplicate rows and convert NAN values to float.
* **EXPLORATRY ANALYSIS AND VISUALISATION**- The next step is to use the data set for the analysis by using the code to create charts to analyse various parameters which will help restaurants and Zomato in decision making. Our key parameters are-

1. NO. of restaurants that provide table booking.
2. NO. of restaurants that provide online delivery services.
3. No and Types of restaurants at different places in Bangalore.
4. Famous restaurants in city of Bengaluru.
5. Area wise rating of restaurants in Bangalore.
6. Effect of online delivery option on restaurants rating.
7. Distribution for approximate cost for two people.
8. Effect of approximate cost for two on rating of restaurants.
9. Top 10 locations in Bangalore with cost effective and highly rated restaurants
10. Correlation between rates, votes and approx. cost of two people

Analysis:

1. In the city of Bangalore there are total 7 types of restaurants.
2. 74% of the Restaurant don't provide Booking Facility.
3. 30% of the Restaurants are beyond the rich of Digitization and are not having online order facility
4. Most of the restaurants have ratings in between 3.7-3.9
5. Delivery is the most preferred type of restaurant.
6. Pubs and bars are the least engaged outlets.
7. Onesta is the most famous restaurant in the city.
8. Truffles is the best restaurant chain with a rating of more than 4.5.
9. BTM has the maximum number of hotels providing online services.
10. Koramangala 5th Block in Bangalore has the highest number of restaurants and is the top place to visit if someone wants to have food from high rated restaurants but at low prices
11. The restaurants providing the online delivery options have a slight better rating
12. The maximum cost for two to eat in a restaurant in Bangalore is Rs. 6000.
13. The approx. cost for two has a high density in between 0-1000 somewhere around ~Rs.500

CONCLUSION:

The results we developed after analyzing the data provide us with statistics for a marketing campaign. These insights can help restaurants and businesses understand customer needs and make the necessary changes. This data can also help the company (here: Zomato) to launch new restaurants, the strategies that contributed to the growth of the associated restaurants. Existing restaurants can also benefit from statistics on customer behavior and develop strategies tailored accordingly. In addition to restaurants, guests can also check the data to get a preview and search for the desired dining locations.

Through this project, we learnt how to utilize Python to create stunning visualizations for exploring the relationship between the variables in the data set and use them for analysis. Apart from that, we learned about a few different types of plots that can be used to present the findings to the stakeholders.