Cognifyz-Restaurant-Service-Analysis

About Cognifyz-Technologies

Cognifyz Technologies is a leading technology company specializing in the dynamic field of data science and excels in delivering impactful projects and solutions. The company offers various products and services, including artificial intelligence (AI), machine learning (ML), and data analytics tools. Cognifyz Technologies also provides training programs to enhance skills and knowledge. The company focuses on delivering innovative and cutting-edge solutions to meet the evolving needs of businesses

Objectives

In this internship program, Cognifyz Provided a Set of restaurant datasets. The main objective of the project is to derive valuable insights from the datasets, gain a comprehension of customer behavior, examine the sales and pricing, monitor the services, and evaluate the performance of restaurants. This data holds significance for decision-making for new chain establishment, refining the market strategies, and enhancing overall business operations pertaining to sales and services.

Exploratory Data Analysis

The dataset contains 21 columns and 9,551 entries. Here are some key columns:

Restaurant ID, Name, Country Code, City - Basic identifiers and location information.
Longitude, Latitude - Geographic coordinates.
Cuisines, Average Cost for two, Currency, Price range - Restaurant-specific details.
Has Table booking, Has Online delivery, Is delivering now - Availability indicators.
Aggregate rating, Rating color, Rating text, Votes - Ratings and feedback metrics.

Insights from EDA

Top Cuisine - “North Indian” cuisine serve by 936 restaurants followed by “North Indian, Chinese” and “Chinese” cuisine. This three are most common cuisine in the datasets. Approx. 9.81% of ” North Indian” cuisine serve by restaurant.

City Analysis – The “New Delhi” city has highest number of restaurant and “Inner City“ is the highest in average rating i.e. 4.9.

Price Range Analysis – 46.5 % of restaurant belongs to price range 1 i.e. 4438 restaurant . And 6.14 % belongs to price range 4.

Online delivery – The 25.69 % restaurant has offer online delivery services as compare to other delivery option.

Rating - The rating lies between 0 to 5, zero rating is highest and most common in the given range and the average votes received by restaurant is 156.77. The “Toit” restaurant received 10934 votes which is highest in all.

Cuisine combination – “North Indian, Chinese” cuisine lies under the combination cuisine serve by 511 restaurants.

Average Rating - The 734 restaurant chains with the highest average ratings. These chains are likely to be popular among customers and may have a reputation for providing excellent dining experiences.

Key Findings from Price Distribution, Votes, and Rating Analysis:

Price Distribution: Most restaurants fall into Price Range 1 (Low) with 4,444 entries, and Price Range 2 (Moderate) with 3,113 entries.
Higher price ranges (3 and 4) are less common, suggesting a greater prevalence of budget to mid-range dining options.

Rating Insights: Ratings are predominantly in the "Average" (3,737) and "Not rated" (2,148) categories.
Only 301 restaurants received an "Excellent" rating, indicating a small proportion of highly rated establishments.
Poorly rated restaurants ("Poor") are minimal, with 186 entries.
Service Availability:

Table Booking: Only 1,158 restaurants offer table booking, while the majority (8,393) do not.
Online Delivery: 2,451 restaurants provide online delivery, showing a higher preference for delivery services over table booking.

Correlations: The Price Range is moderately correlated with Aggregate Rating (0.44), indicating that higher-rated restaurants may charge more.
The Votes are slightly positively correlated with Aggregate Rating (0.31), suggesting that higher-rated restaurants tend to receive more votes, potentially due to greater popularity.

Popularity Based on Votes - Higher total votes suggest greater popularity and may indicate that a chain is frequently visited by customers.

Customers are likely to give higher ratings to restaurants that receive more votes.

A positive correlation could suggest that more engaged customers, who take the time to vote, are generally satisfied with their dining experiences. This could be valuable information for understanding customer preferences and satisfaction.

Recommendations:

Improvement of Ratings and Reviews:

Encourage customer feedback to boost ratings and address gaps in the "Not rated" category. This could increase visibility and credibility.

Pricing Strategies:

With a large concentration in lower price ranges, introducing premium offerings could fill the demand for higher-end options, especially for restaurants with "Very Good" or "Excellent" ratings.

Service Expansion:

Restaurants without table booking might consider adopting it, as it may increase their appeal to diners preferring a reservation option.
Online Delivery shows a high adoption rate; however, restaurants without this option could leverage it to cater to a growing trend toward convenience.

Enhanced Customer Engagement:

Encourage voting and review sharing among customers, especially for highly rated establishments, to strengthen the restaurant's position and appeal in the market.