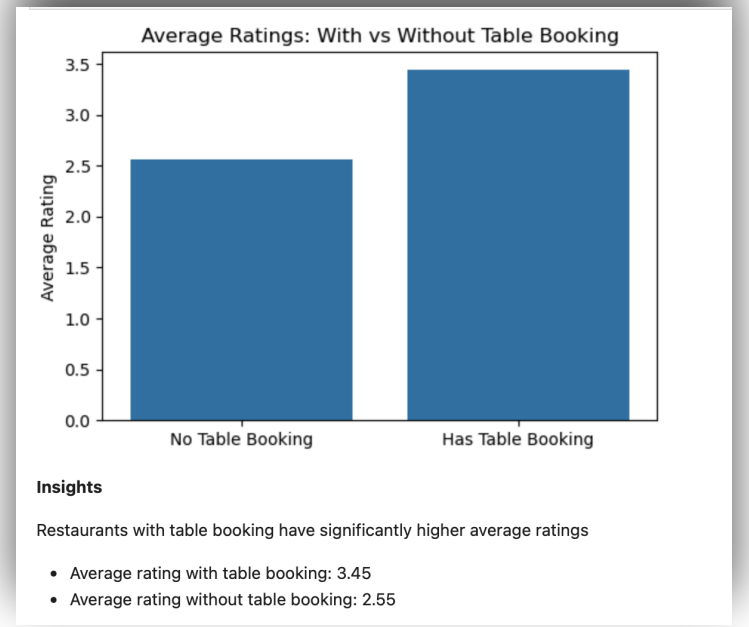
Cognifyz Internship - Level 2 Report

Restaurant Data Analysis &
Feature Engineering

Task 1 – Table Booking & Online Delivery

Key Findings:

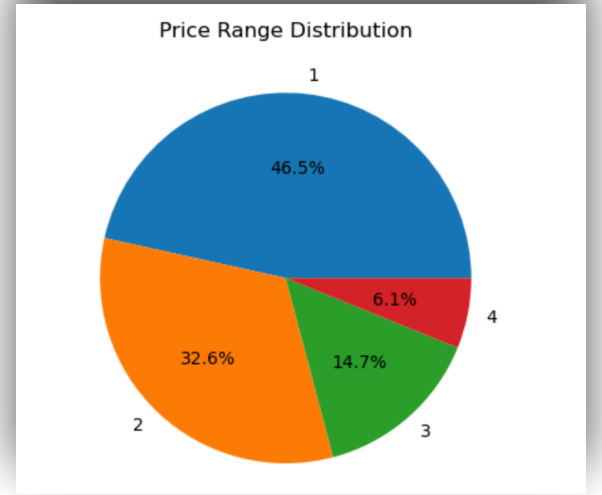
- 12.12% of restaurants offer table booking
- 25.66% offer online delivery
- Restaurants with table booking have higher ratings
- Online delivery is most common in mid-range price groups

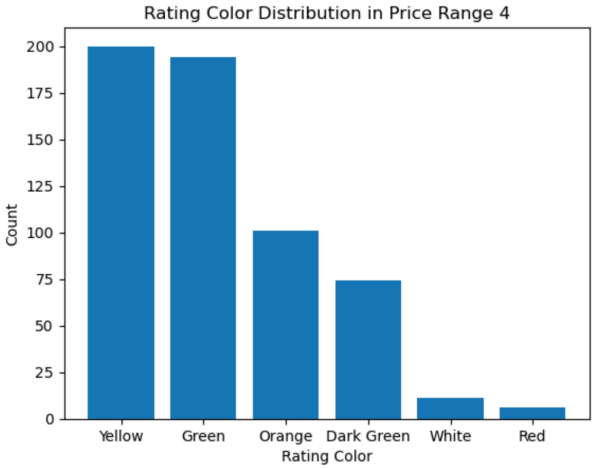


Task 2 – Price Range Analysis

Key findings:

- Most common price range: 1 (Budget)
- Higher price → Higher average rating
- Price range 4 has the highest average rating
- Dominant rating colour in Price Range 4: Yellow (Good)





Task 3 – Feature Engineering

New Features Created:

- name_length
- address_length

Encoded features using map

- has_table_booking
- has_online_delivery

Label Encoded features

- City ,locality, cuisines

Dropped features

- 'Restaurant ID', 'Restaurant Name', 'Address', 'Locality Verbose', 'Is delivering now', 'Switch to order menu', 'Currency', 'Rating color', 'Rating text'

Level 2 – Final Report

Task 1: Table Booking & Online Delivery Analysis

Findings

- 12.12% of restaurants offer table booking, while 87.88% do not.
- 25.66% of restaurants offer online delivery, showing moderate adoption.
- Restaurants with table booking have a higher average rating (≈3.44) compared to those without booking (≈2.56).
- Online delivery availability is highest in mid-priced restaurants (Price Range = 2) with approx 41% offering delivery.
- Delivery availability drops significantly in premium (Range 4) and low-budget (Range 1) categories.

Insights

- Restaurants that offer table booking tend to have better ratings than those that don't. meaning customers are more satisfyed due the convenience of reserving a table.
- Online delivery is most common among mid-priced restaurants, suggesting these places focus more on convenience.
- premium and very low-priced restaurants are less likely to provide online delivery.
- Overall, providing table booking or online delivery services can improve customer experience, which may lead to slightly higher ratings.

Task 2: Price Range & Rating Analysis

findings

- Most Common is Price Range 1, indicating that most restaurants are budget-friendly in our dataset
- Average Rating for Each Price Range :

1. Price Range 1 (cheapest/budget restaurents) - Average rating: 1.99, Customers give lower ratings to the cheapest restaurants.
2. Price Range 2(medium priced restuarents)- Average rating: 2.94 which means Ratings improve as price increases.
3. Price Range 3(costly restuarents)- Average rating: 3.68 , Higher-priced restaurants receive better ratings.
4. Price Range 4 (most expensive) - Average rating: 3.82, These restaurants have the highest average ratings.

- Dominant Rating Color in the Highest-Rated Price Range is yellow which represents good ratings(3.5 - 3.9)

Insight:

- Ratings increase with price, suggesting higher-priced restaurants deliver better service/quality.

Task 3: Feature Engineering

here New Features Created plus some features encoded using mapping and label encoding and some features dropped.

- name_length - Length of the restaurant’s name.
- address_length- Character length of the restaurant’s full address.
- encoded method used is mapp() for these features :
- has table booking (encoded: Yes → 1, No → 0)
- has online delivery (encoded: Yes → 1, No → 0)
- label encoded features :
- 'City', 'Locality', 'Cuisines'
- dropped features : 'Restaurant ID', 'Restaurant Name', 'Address', 'Locality Verbose', 'Is delivering now', 'Switch to order menu', 'Currency', 'Rating color', 'Rating text'

Insight

These engineered features make the dataset more structured, numeric, and ready for machine learning, improving the quality of Level 3 tasks such as predictive modelling using descion regression trees , random forest regressor. 💀

Thank You!

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Cognifyz Data Science Internship (Level 2)