FoodHub
Business Presentation

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Business Problem Overview and Solution Approach

- FoodHub is a food aggregator company that offers access to multiple restaurants through a single smartphone app.
- FoodHub want to analyze their data to get a fair idea about the demand of different restaurants which will help them in enhancing their customer experience.
- The solution approach is to perform the data analysis to find answers to these questions that will help the company to improve the business.

Data Overview

The data contains the different data related to a food order.

Variable	Description
order_id	Unique ID of the order
customer_id	ID of the customer who ordered the food
restaurant_name	Name of the restaurant
cuisine_type	Cuisine ordered by the customer
cost	Cost of the order
day_of_the_week	Indicates whether the order is placed on a weekday or weekend
rating	Rating given by the customer out of 5
food_preparation_time	Time (in minutes) taken by the restaurant to prepare the food.
delivery_time	Time (in minutes) taken by the delivery person to deliver the food package.

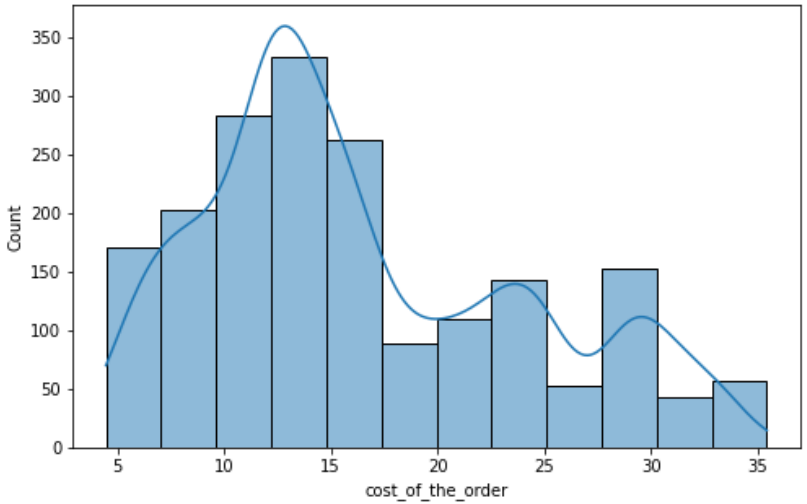
- There are 1898 rows and 9 columns in the dataset.
- There are no null values in the data, but the value for customer rating is “Not given” for 700+ rows.

Exploratory Data Analysis (EDA)

- Univariate Analysis – Cost of the order

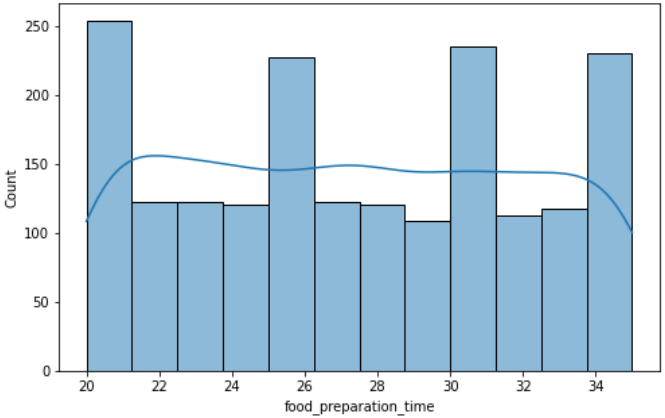
Observations:

1. The hist plot indicates the positive skewness in the data.
2. Most of the 'cost of the order' data is concentrated on 10-15 value range.



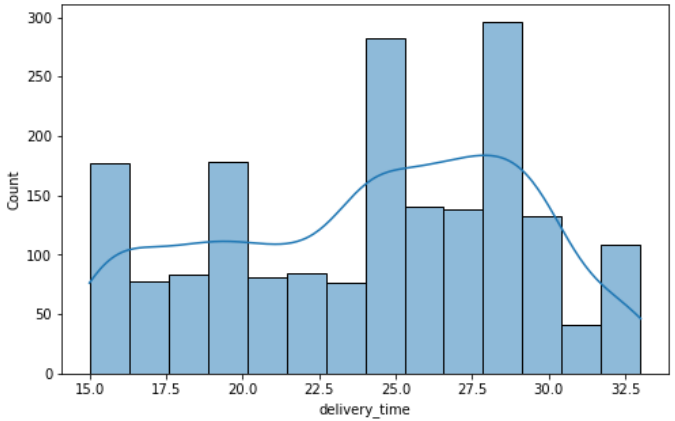
Exploratory Data Analysis (EDA)

- Univariate Analysis – food preparation time and delivery time



Observations:

1. The hist plot indicates that there is no skewness in the data.

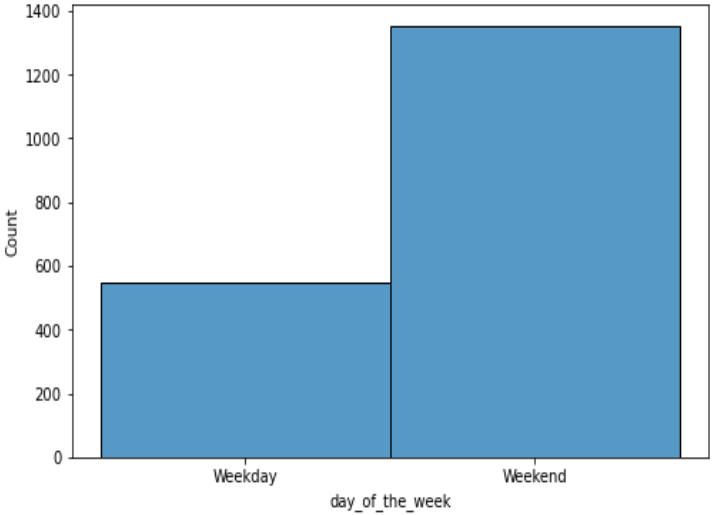


Observations:

1. The hist plot indicates the negative skewness in the data.
2. Most of the 'delivery time' data is concentrated on 24-29 value range.

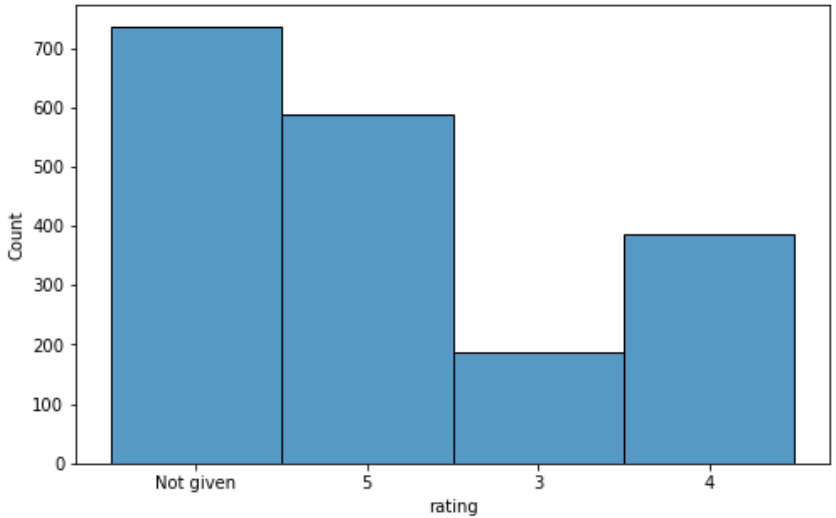
Exploratory Data Analysis (EDA)

- Univariate Analysis (categorical) – day of the week and rating



Observations:

1. Day of the week column has only two values - Weekday and Weekend. Weekend is more popular than weekdays.



Observations:

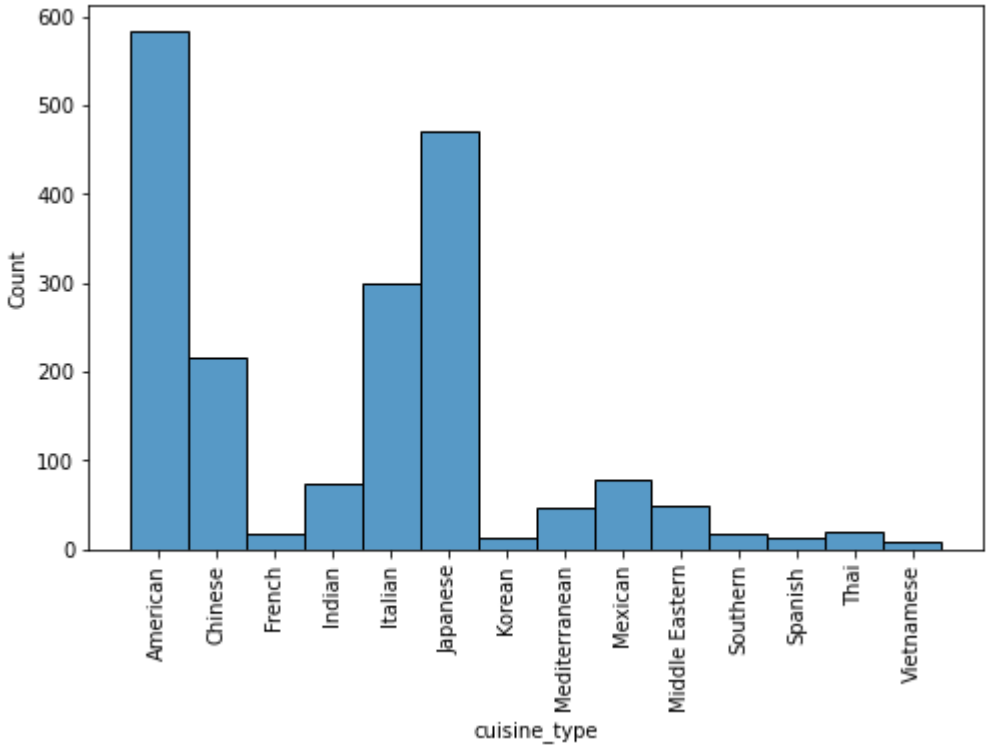
1. The rating field has 4 unique values - 3, 4, 5 and Not given.

Exploratory Data Analysis (EDA)

- Univariate Analysis (categorical) – cuisine type

Observations:

1. There are 14 distinct cuisines type American, Japanese and Italian cuisines are more popular than others.

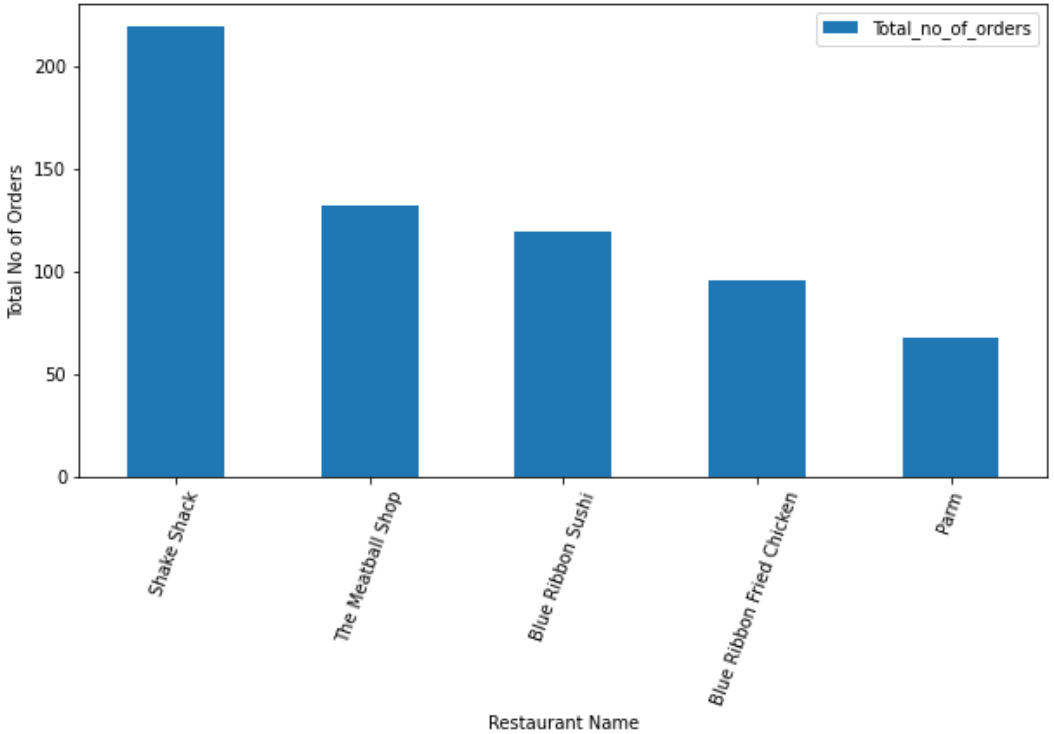


Exploratory Data Analysis (EDA)

- Univariate Analysis (categorical) – restaurant name

Observations:

1. These top 5 restaurants have 634 orders, that is approximately 33% of all orders in this analysis.



Exploratory Data Analysis (EDA) - Correlation matrix

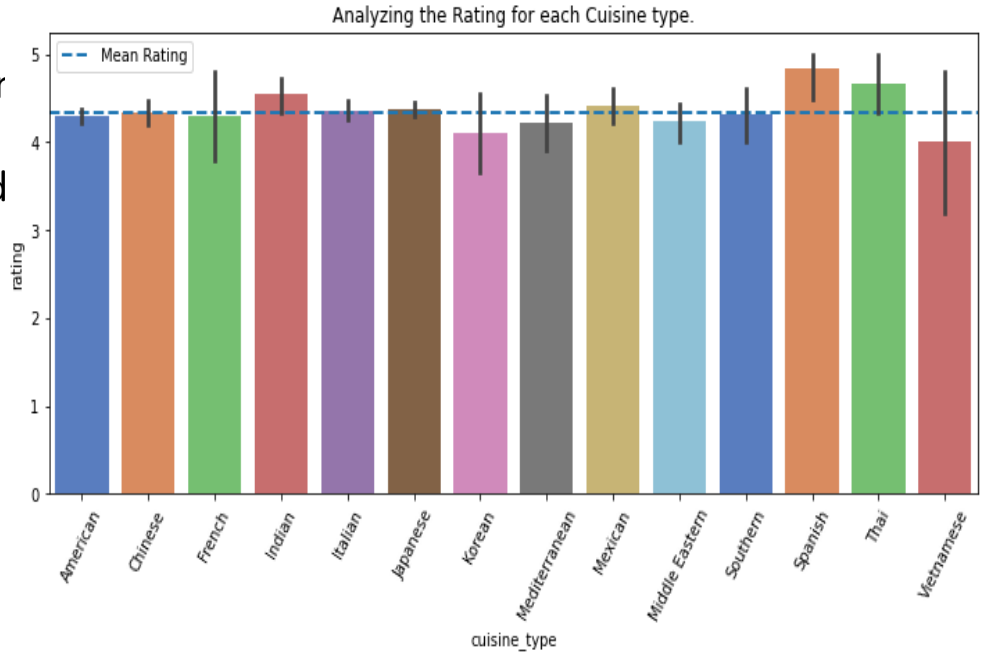
- There seems to be no correlation between the numerical fields in this dataset.
- This matrix is plotted after filtering the orders with a valid numeric rating

Exploratory Data Analysis (EDA)

- Bivariate Analysis – Rating vs. Cuisine type

Observations:

1. No significant difference in rating for each cuisines.
2. We can see that Indian, Spanish and Thai restaurants have better rating than others.
3. Also note that the popularity of American, Japanese and Italian cuisines did not translate into high ratings
4. Again, keep in mind that a good chunk of the customers did not rate the service provided.

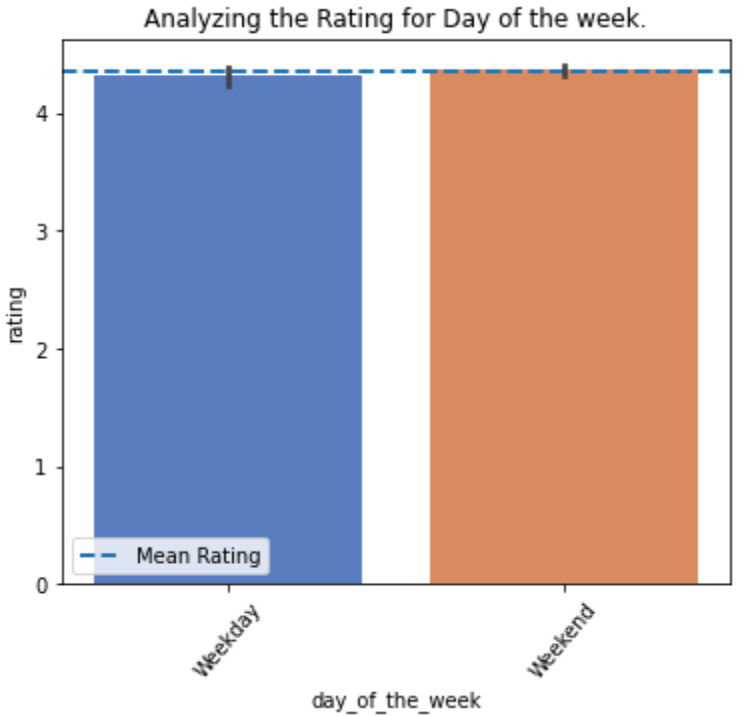


Exploratory Data Analysis (EDA)

- Bivariate Analysis – Rating vs. Day of the week

Observations:

1. No significant difference in rating for days of the week.
2. Weekend seems to have a slightly higher rating compared to weekdays, but here we are looking at a dataset with more data for weekend deliveries.

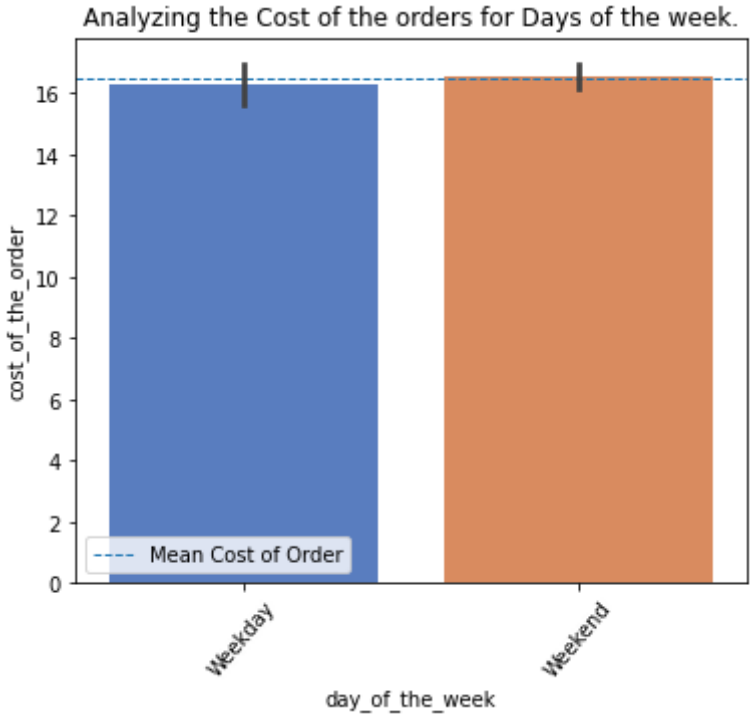


Exploratory Data Analysis (EDA)

- Bivariate Analysis – Cost vs. Day of the week

Observations:

1. No significant difference in cost of order for days of the week.
2. Weekend seems to be costly compared to weekdays, but here we are looking at a dataset with more data for weekend deliveries.

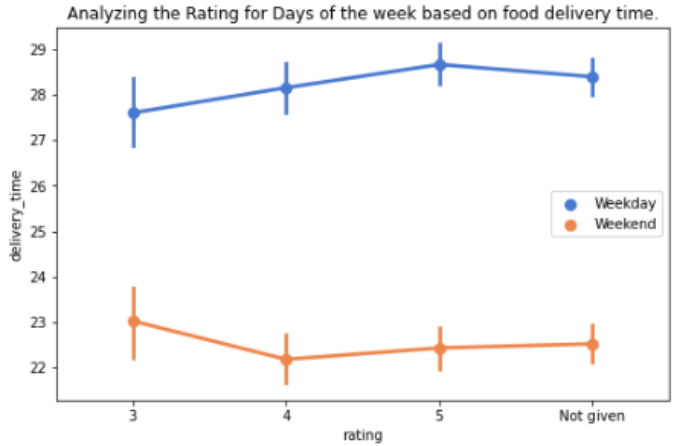


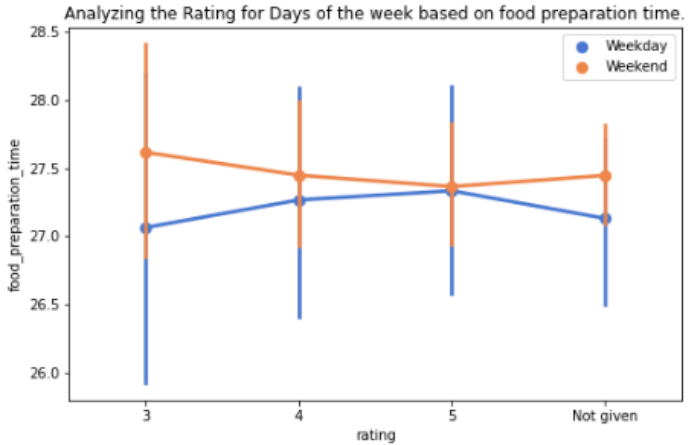
Exploratory Data Analysis (EDA)

- Multivariate Analysis – rating for days of the week based on food delivery time and food preparation time.

Observations:

1. Now, here is a significant difference in food delivery times between Weekdays and Weekends while the preparation time is almost the same.
2. The food delivery times of Weekdays is from 27 to 29 minutes, but it is down to 22 to 23 minutes on Weekends.
3. It can also be noted that this difference in food delivery times between Weekdays and Weekends does not have an impact on the ratings.



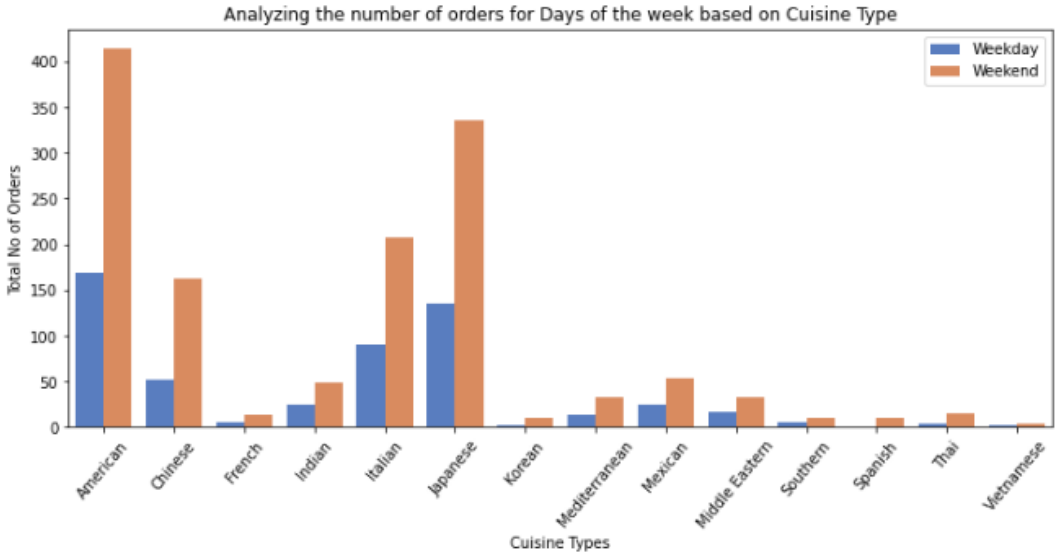


Exploratory Data Analysis (EDA)

- Multivariate Analysis – number of orders for Days of the week based on Cuisine Type

Observations:

1. The number of orders placed in the Weekend is much higher compared to weekdays.
2. Wanted to see if there is an outlier cuisine that has more order on the weekday, but no such scenario exists in this dataset.

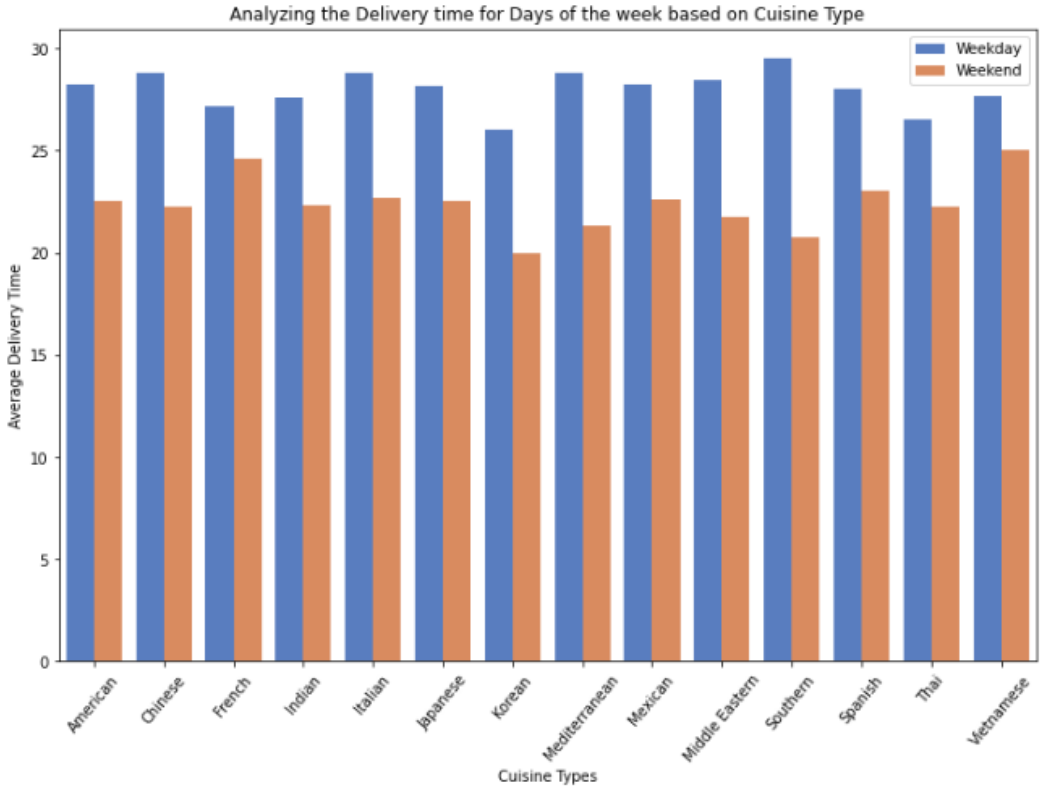


Exploratory Data Analysis (EDA)

- Multivariate Analysis – delivery time for Days of the week based on Cuisine Type

Observations:

1. The delivery time of orders placed in the Weekend is less than the orders placed on weekdays.
2. Wanted to see if there is an outlier cuisine that has a delivery time higher in weekends. But no such scenario is observed here.

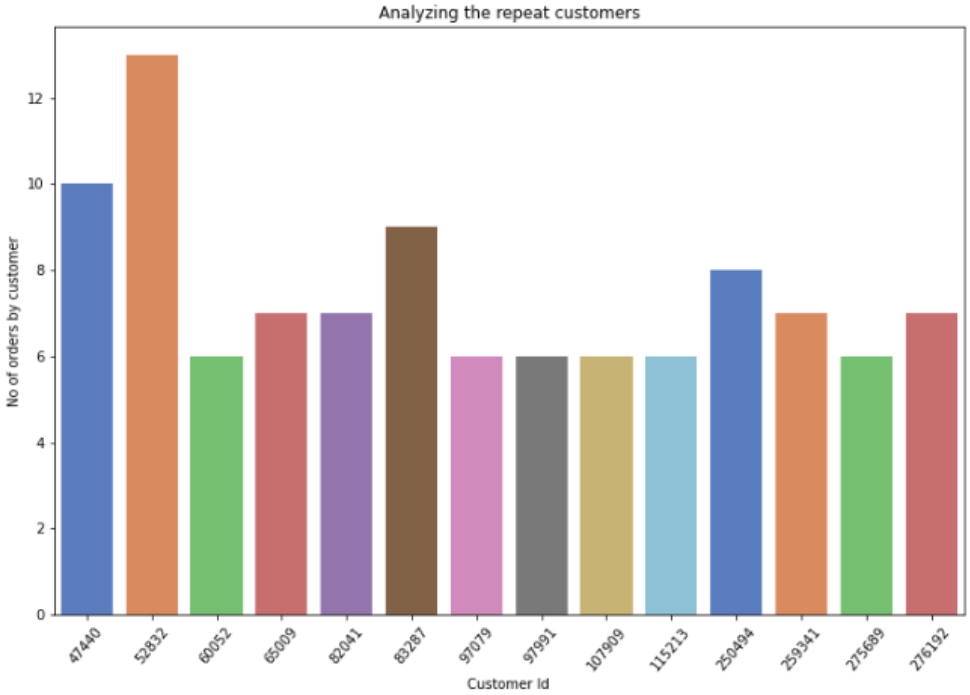


Exploratory Data Analysis (EDA)

- Bivariate Analysis – the repeat customers (customers with more than 5 orders)

Observations:

1. 14 customers in this dataset have placed more than 5 orders.
2. The total number of orders placed by these 14 customers is 104.
3. Out of the 1200 unique customers in the dataset, 416 of them have placed multiple orders.



Business Insights and Recommendations

- The dataset provided has the customer rating missing for one-third of the orders. The food aggregator company should incentivize the customers to review their orders. (like reward points, that can be aggregated and redeemed for future orders.)
- One of the major factors that can impact the customer rating is the date and time of the order. Adding this to the dataset would help identify how the customer satisfaction (rating) changed over time.
- There is a significant difference in food delivery times between Weekdays and Weekends. The food delivery time for weekdays need to be improved by having more delivery persons available on weekdays.
- As per the dataset, the number of orders in weekdays are lower than weekends. The food aggregator company can offer a weekday discount for customers to increase the number of orders in weekdays. (When the customer orders food on the weekend, send a 5% off coupon that can be used on coming Monday to Thursday)

Business Insights and Recommendations (continued)

- American and Japanese cuisines are more popular as per the dataset, but Spanish, Thai and Indian cuisines have higher than average ratings. Hence there is a appetite for different cuisines in the region and that can be explored by adding more cuisines to the list.
- Since the weekends have more orders, the food aggregator company can increase the company charges on weekends. This increased revenue can make up for the lack of demand on weekdays.
- Out of the 1200 unique customers in the dataset, 416 of them have placed multiple orders. To retain this customer base, the food aggregator company can offer a subscription program (fixed fees for a month regardless of the number of orders placed).

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