Food Hub Case Study

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Table of Contents

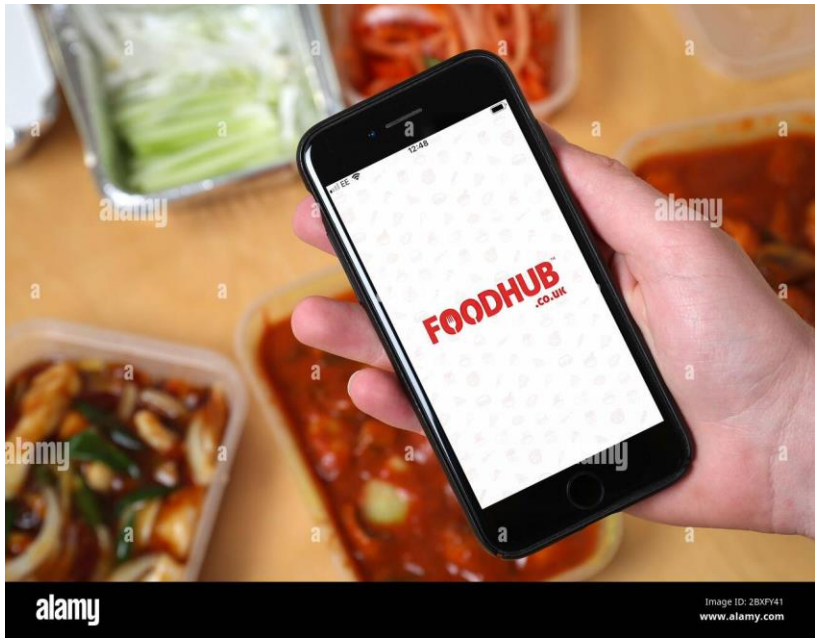
Background

FoodHub is a food aggregator company that offers access to multiple restaurants through a single smartphone app

FOODHUB

The number of restaurants in New York is increasing & lots of busy professionals rely on online food delivery services

Restaurants receive orders from customers & the app assigns a delivery person to pick up & deliver to customers



FoodHub earns money by collecting a fixed margin of the delivery order from the restaurants (15% for orders > $5; & 25% for orders > $20)

Objective

Evaluate FoodHub's data to understand the **demand of different restaurants** in order to **enhance their customer experience** and **improve the business.**

Data Information

The data contains the details for the FoodHub orders received and delivered. The detailed data dictionary is given below:

Data Dictionary

- 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 (The weekday is from Monday to Friday and the weekend is Saturday and Sunday)
- rating: Rating given by the customer out of 5
- food_preparation_time: Time (in minutes) taken by the restaurant to prepare the food. This is calculated by taking the difference between the timestamps of the restaurant's order confirmation and the delivery person's pick-up confirmation.
- delivery_time: Time (in minutes) taken by the delivery person to deliver the food package. This is calculated by taking the difference between the timestamps of the delivery person's pick-up confirmation and drop-off information

Observations	Features
1898	9

Univariate Analysis & Findings

Exploratory Data Analysis – Customer's Order Frequency

Observations

- There are a total of 1200 unique customers
- 784 customers (65%) have only made one purchase/order & 267 customer (22%) have order twice using FoodHub
- The highest order count for one single customer is 13 orders

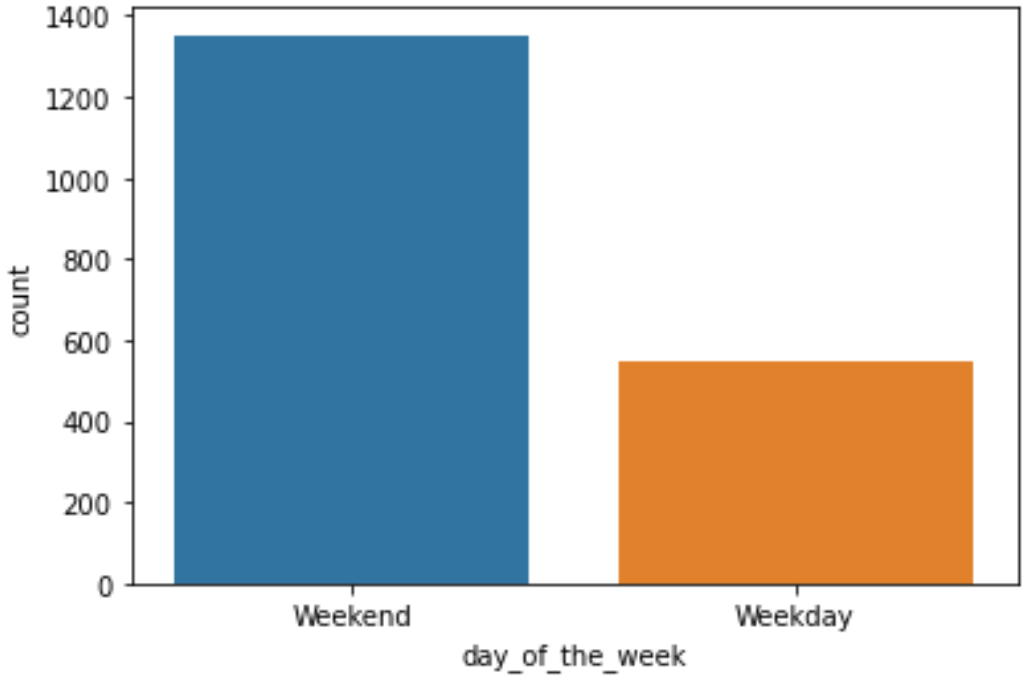
Order Count	Number of Customers
1	784
2	267
3	83
4	33
5	19
6	6
7	4
8	1
9	1
10	1
13	1

Exploratory Data Analysis – Orders by Day of the Week

Observations

- There are significantly more (over double) customer orders on the weekends than on weekdays

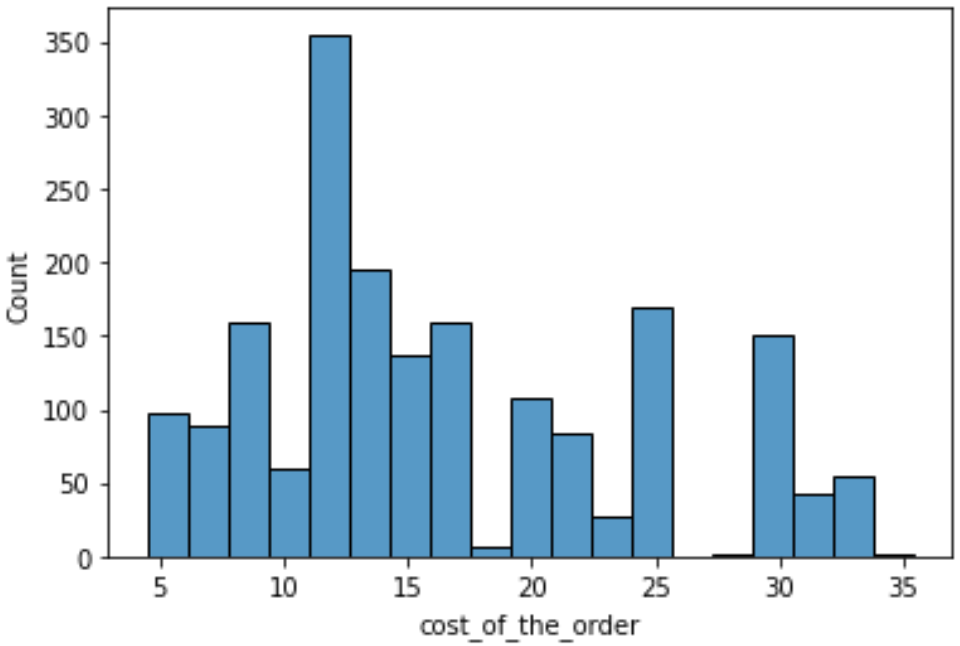
Day of the Week	Number of Orders
Weekday	547 (29%)
Weekend	1351 (71%)

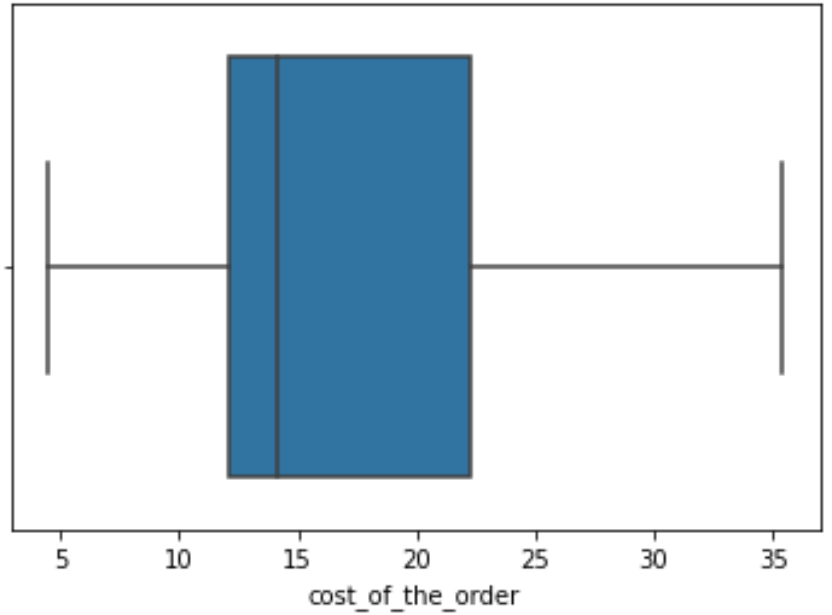


Exploratory Data Analysis – Cost of Orders

Observations

- The distribution of the cost of orders is positively skewed with no outliers.
- 50% of the cost of orders is between $4 - $14. This suggests a one-person meal.

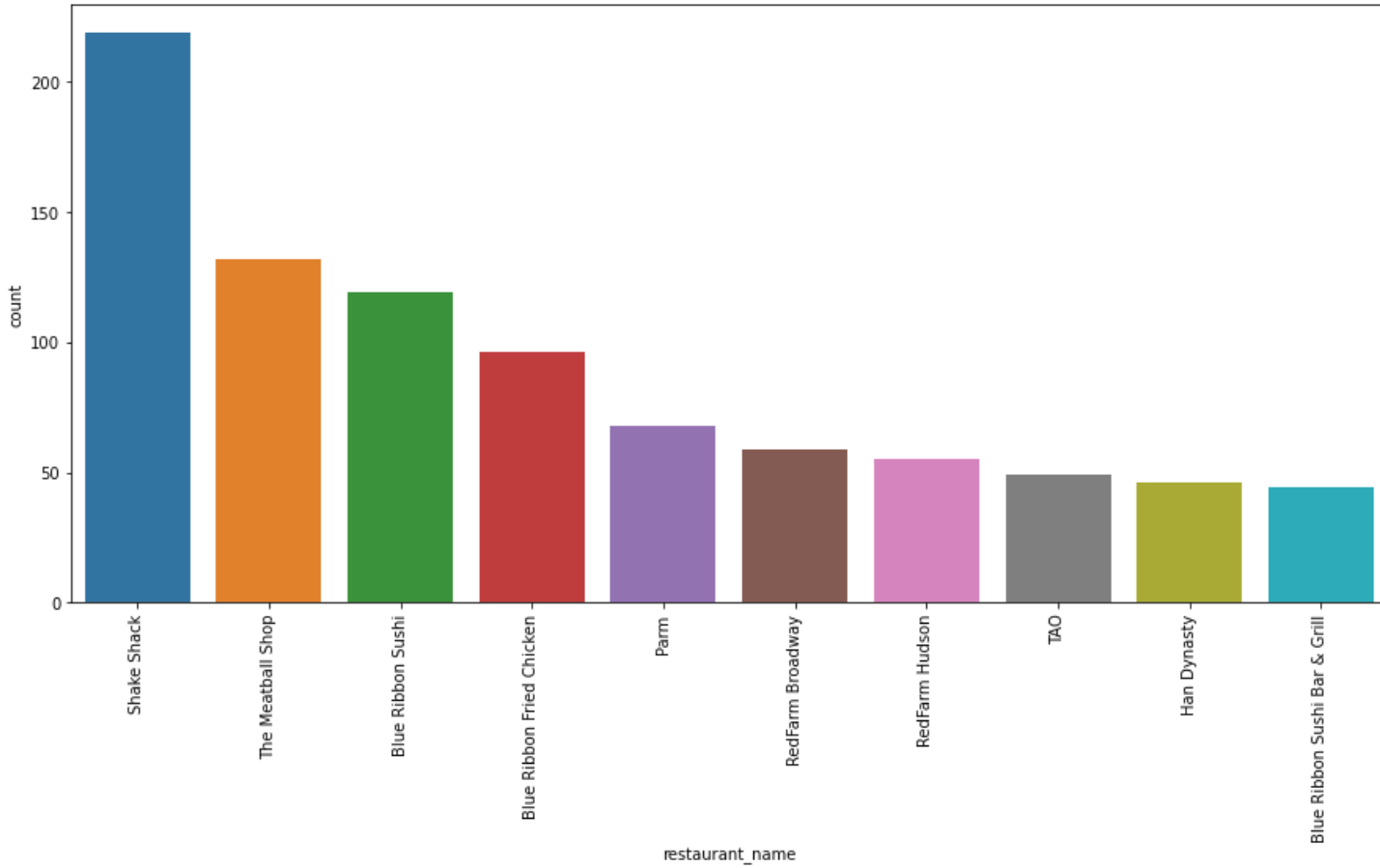




Exploratory Data Analysis – Top Restaurants

Observations

- The top five restaurants with the most orders are:
  1. Shack Shack
  2. The Meatball Shop
  3. Blue Ribbon Sushi
  4. Blue Ribbon Fried Chicken
  5. Parm



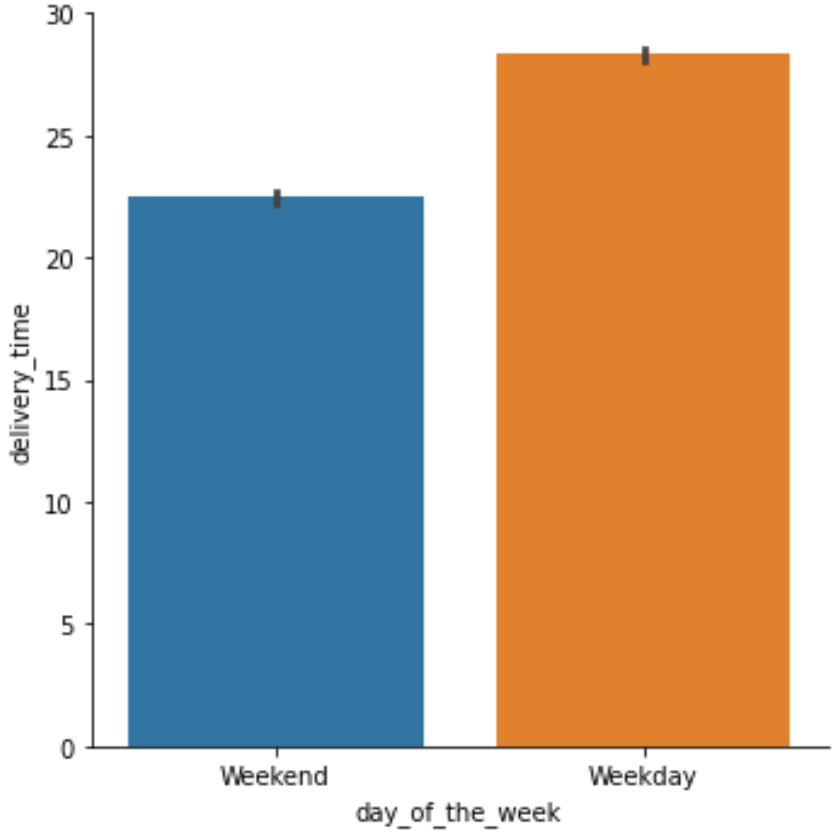
Multivariate Analysis & Findings

Exploratory Data Analysis – Delivery Time vs. Day of the Week

Observations

- Average food delivery time is higher on the weekday than on the weekends

Day of the Week	Mean Delivery Time
Weekend	22.5 minutes
Weekday	28.3 minutes

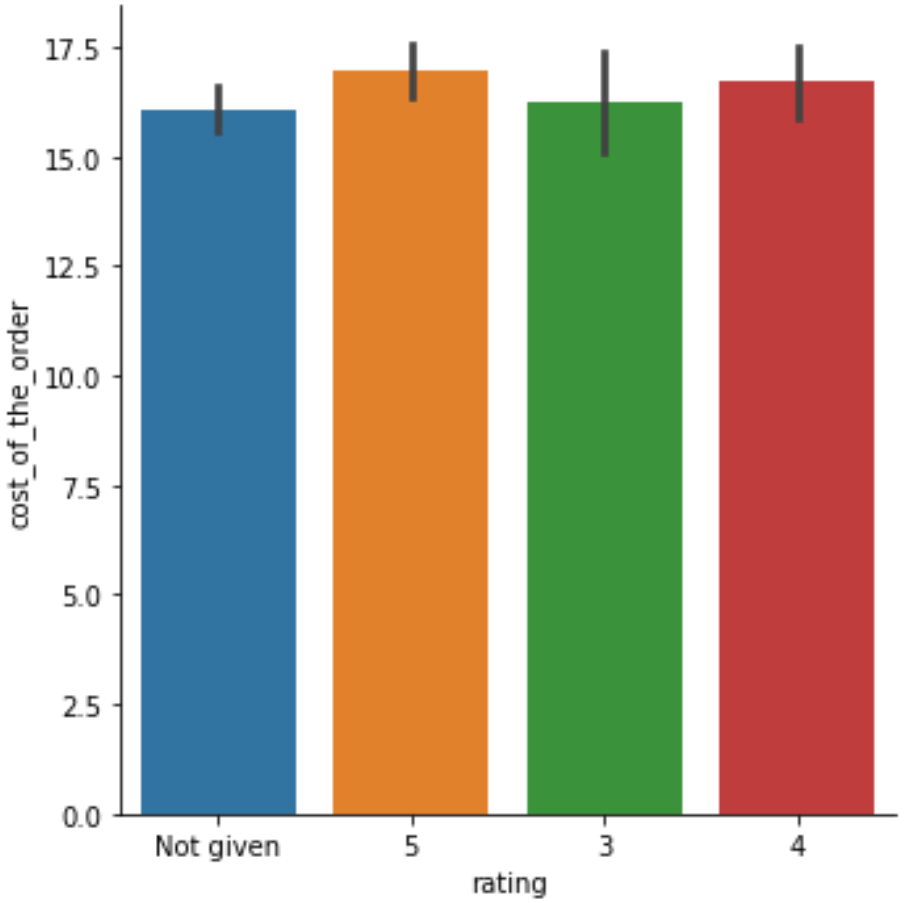


Exploratory Data Analysis – Cost of Order vs. Rating

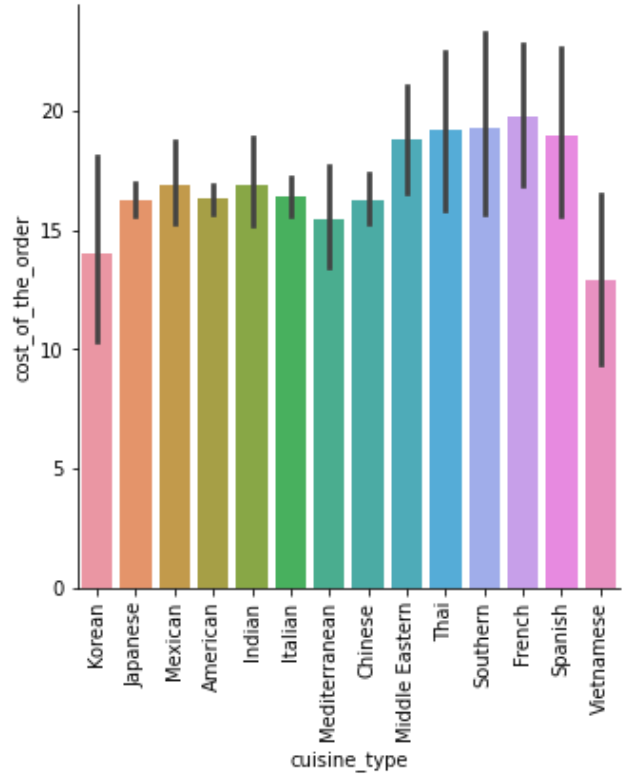
Observations

- Orders with a higher rating (5) generally have higher costs while orders with a lower rating (3) generally have lower costs

Rating	Mean Cost of Orders
5	$17
4	$16.71
3	$16.22
Not given	$16.01

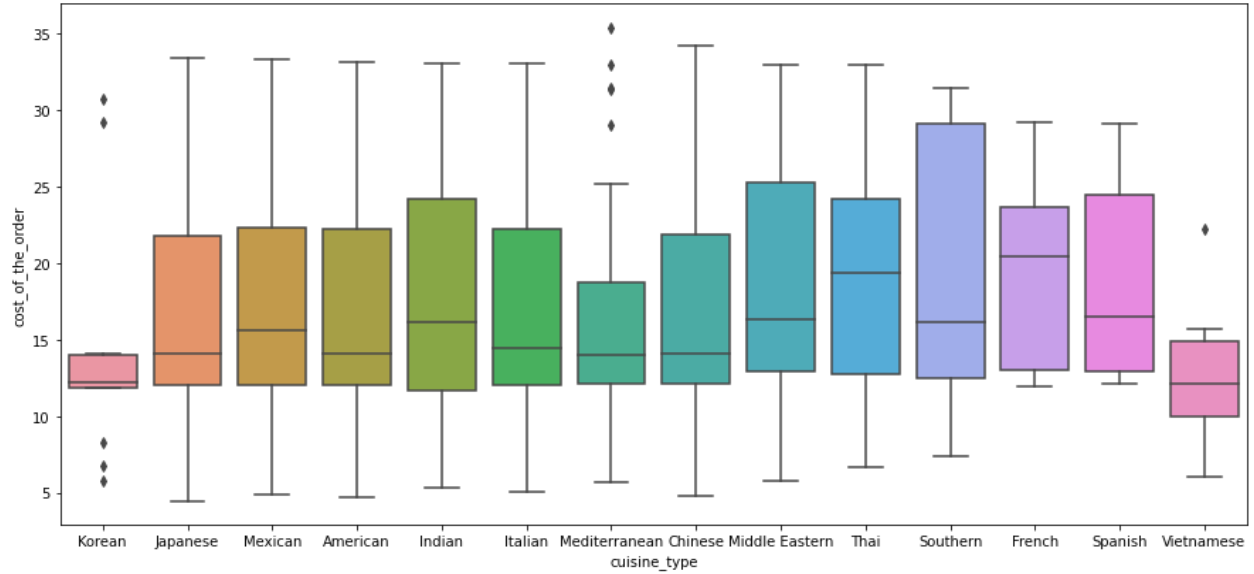


Exploratory Data Analysis – Cost of Order vs. Cuisine Type



Observations

- French cuisine has the highest while Vietnamese cuisine has the lowest mean prices.
- Korean, Mediterranean, & Vietnamese cuisine have some unusually very high or very low prices.



Conclusion

Conclusions

1

Majority of customers ordered only once or twice with a percentage of 65% & 22% respectively

2

Most customer orders are placed on the weekends

3

The mean delivery time is higher on the weekday than on the weekend

4

71% of orders cost less than $20 (i.e. lower revenue for FoodHub)

Recommendations

Recommendations

1

Customers who ordered only once or twice should be offered promotions/discounts on next purchases

2

FoodHub & Restaurants to continue to increase staffing during the weekends

3

FoodHub to offer incentives to drivers during the weekdays in order to improve the delivery time & customer experience

4

Offer customers add-on menus on orders, to total over $20 or/and offer some discount on delivery of orders over $20

Thank you!