Presenting

FOODHUB PROJECT

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VICTOR ADEBESIN

Introduction

- FoodHub a food aggregator Company offers access to multiple restaurants through a single smartphone online app.
- Online food delivery service is a great option for them. It provides them with good food from their favorite restaurants in New York which is increasing day by day. Lots of students and busy professionals rely on those restaurants due to their hectic lifestyles.
- Foodhub earns money by collecting a fixed margin of the delivery order from this restaurants.

Objective

- To analyze the data from different restaurants performance within food delivery, preparation and cost of order of the food processing. through the demand of those restaurants which will assist them in improving their customer experience.

Data Information

VARIABLE	DISCRIPTION
•**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_of_the_order:	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	Variables
18989	9

Note:

. Non-rated order were removed for the rating column to be converted to numerical column .

. From the analysis made there are no missing values from the dataset.

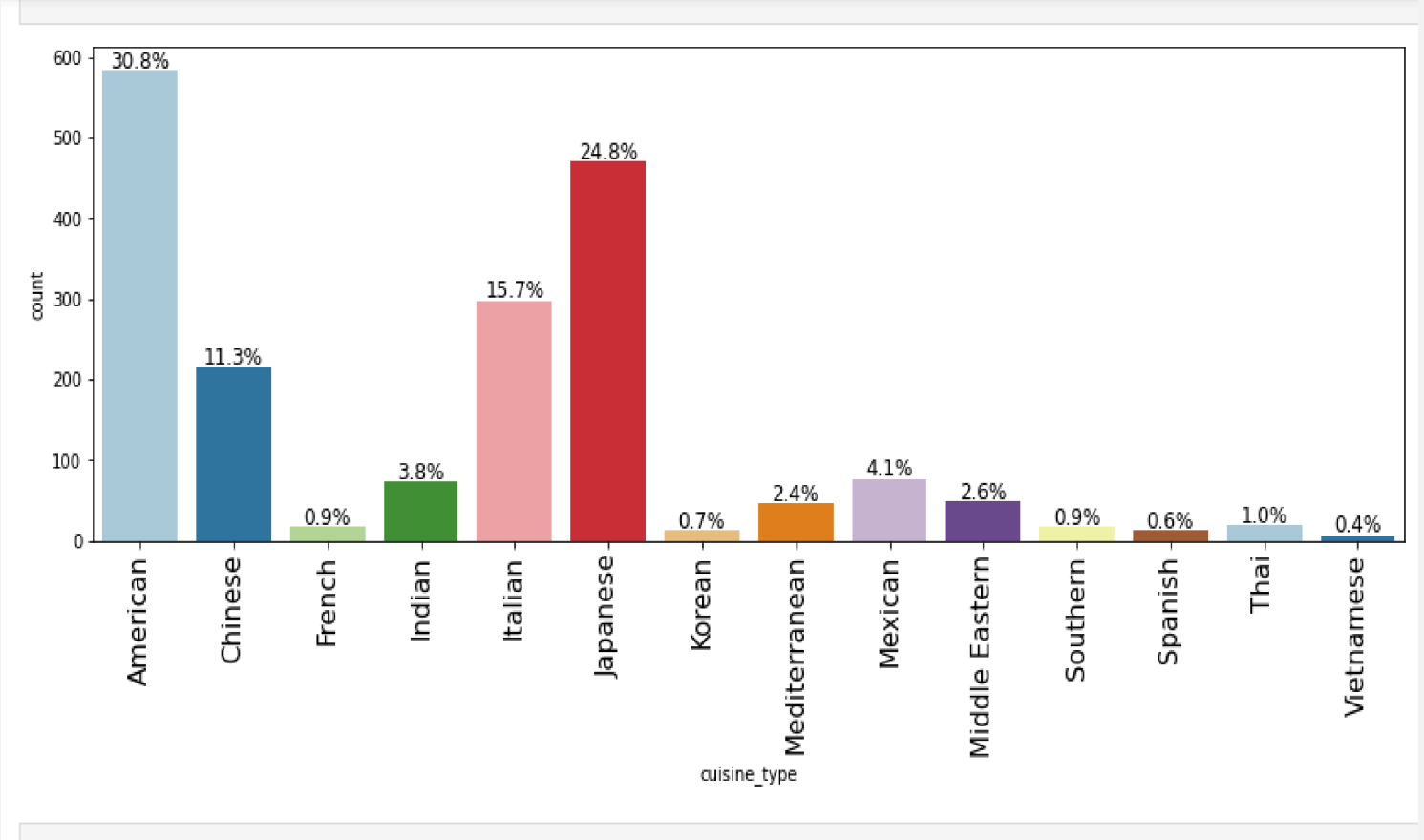
. The variable types that is the Cuisine_type, day_of_the_week and Restaurant _name were changed to cartegory

Univariate Data Analysis - Cuisine Type

In this data, there are variables like customer id, order id, cuisine type that alters or make changes to the data to the business.

Observations

- We have 14 unique cuisine type ordered by the customers.
- By viewing the chart, we can see that 30.8% with an order of about 590 count of American cuisine is ordered for, followed by the Japanese cuisine obtaining 24.8% with a number of about 490 order count.
- Vietnamese cuisine is the lowest cuisine Type with 0.4% .

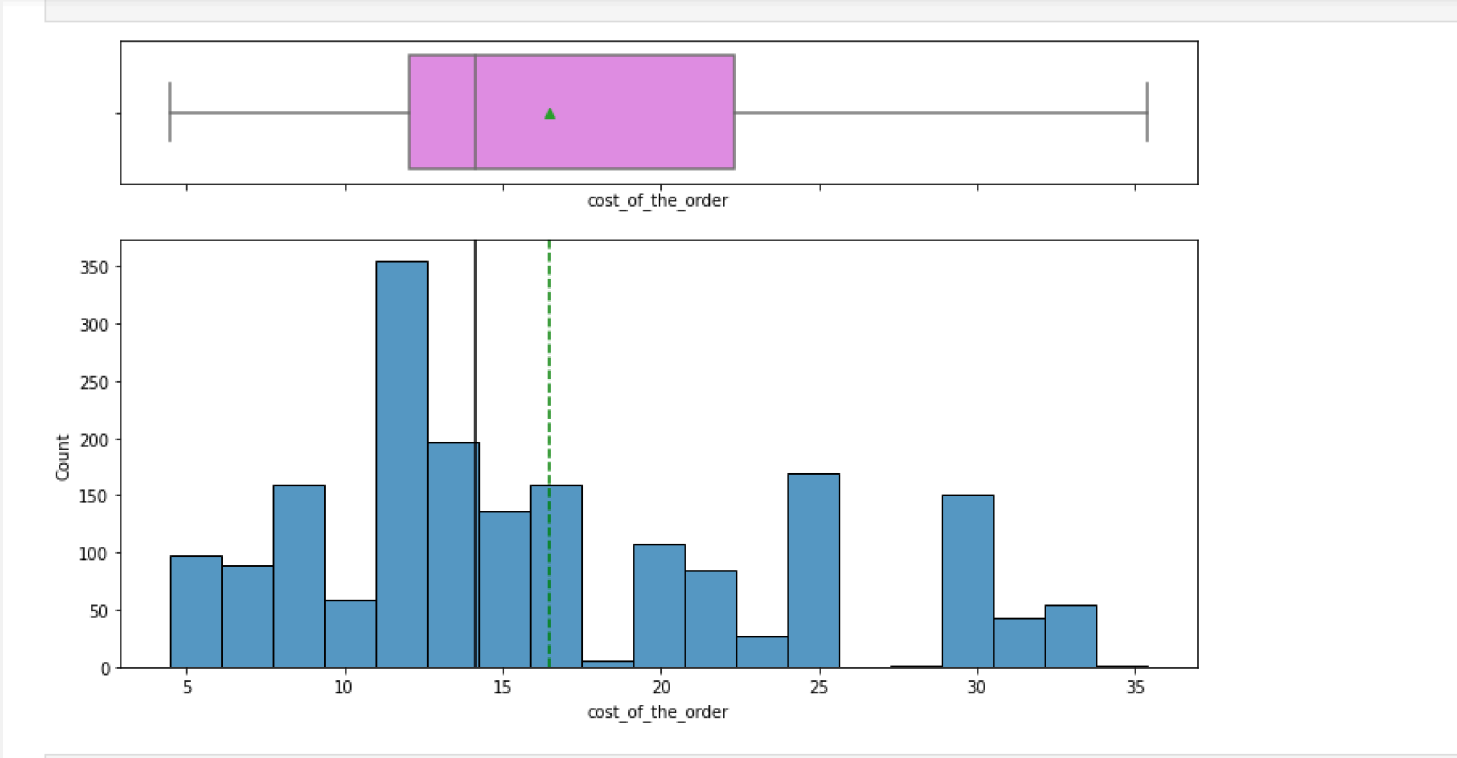


Univariate Data Analysis – Cost of the order

Observations

- The cost of the order is 12 with the highest order of 350.This means people tend to order more when prices are low.
- The mean cost of order is 17 meaning low cost of order is a preference to most customers.

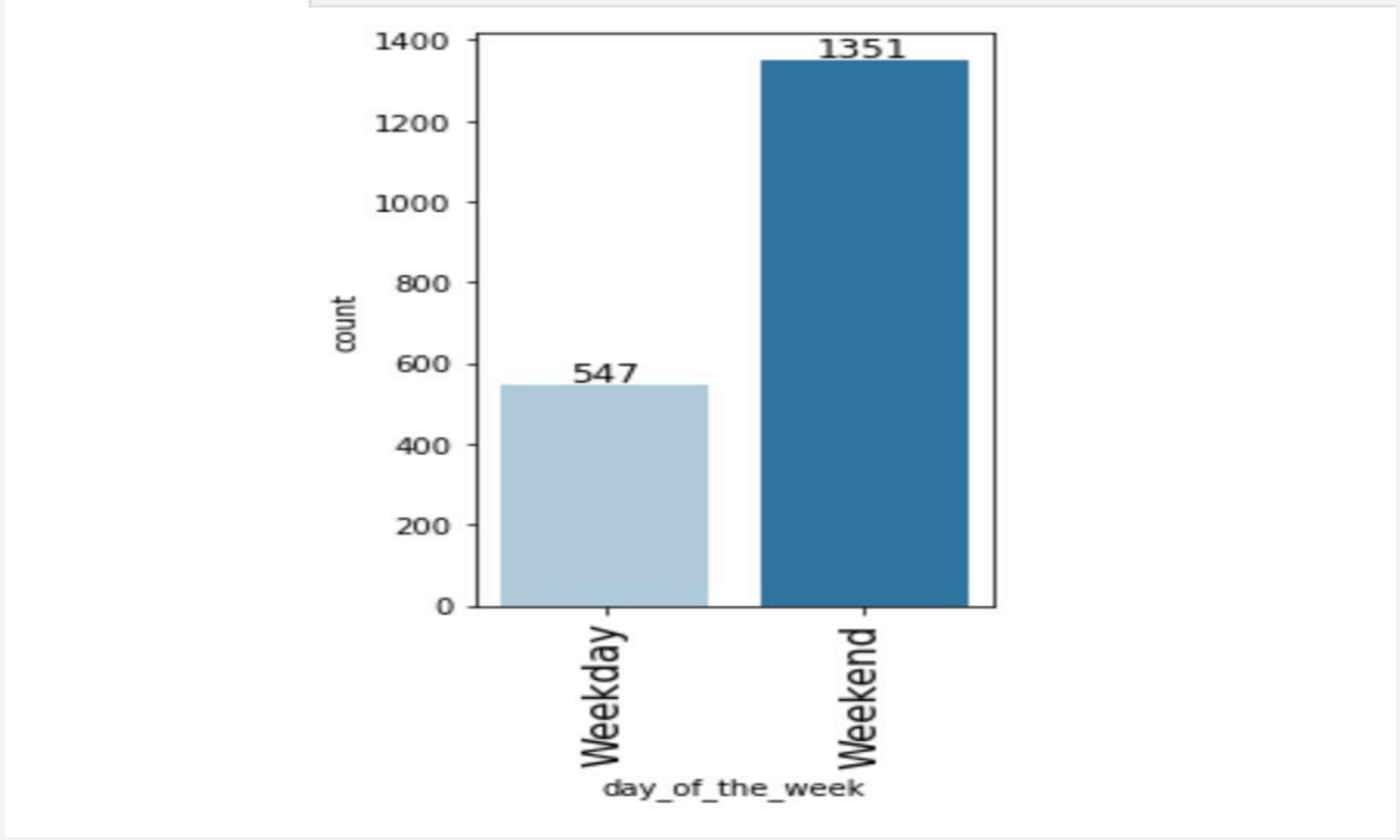
Cost of the order



Univariate Data Analysis – Cost of the week

Observations

- It can be viewed that there are more orders placed on the weekends than the weekdays.

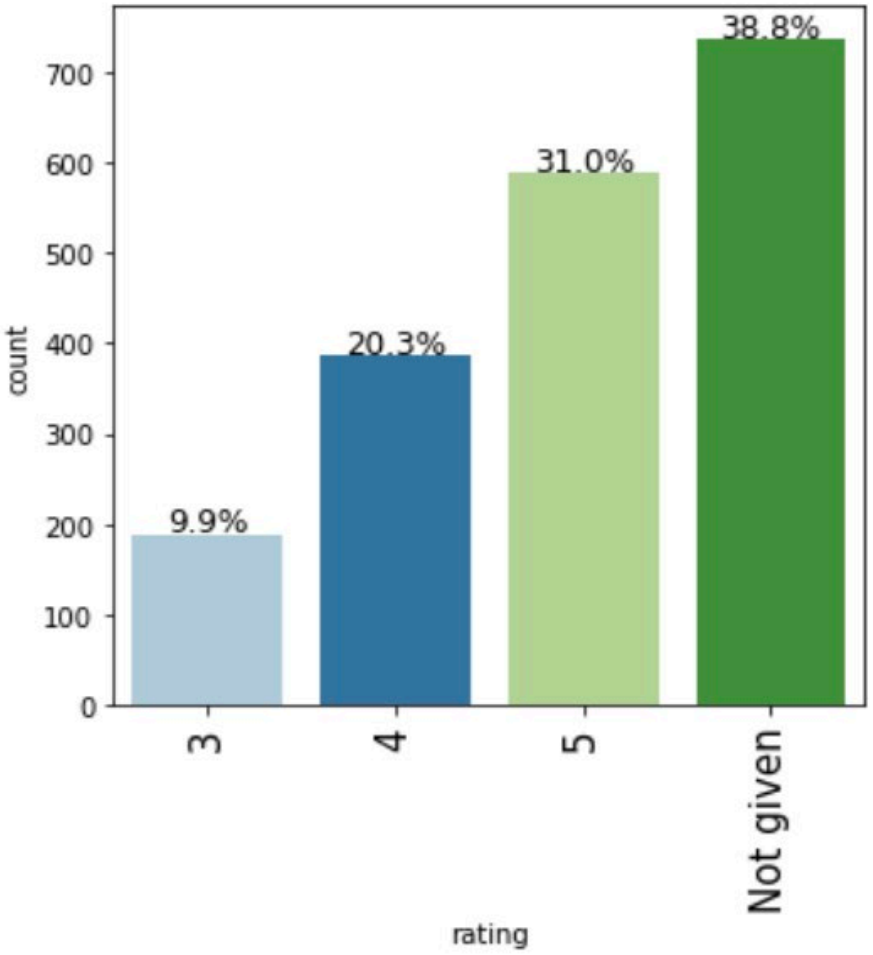


Univariate Data Analysis – Customer Ratings

Observations

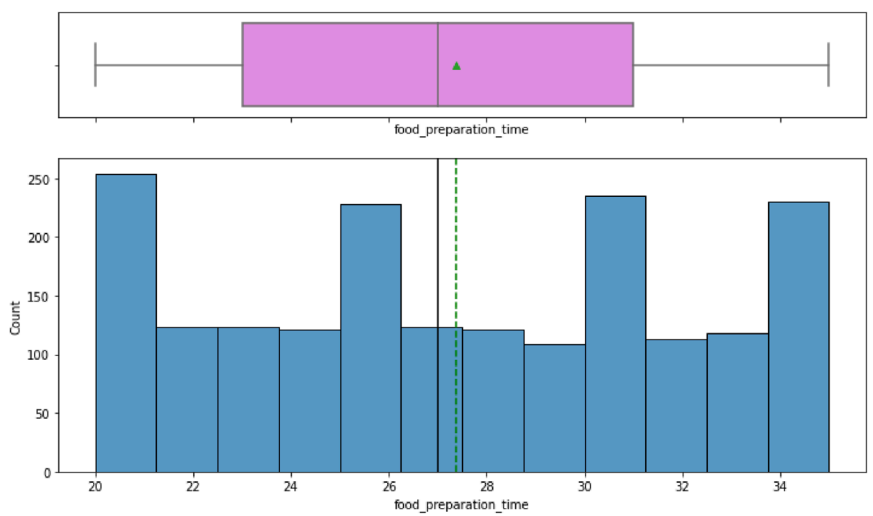
- It can be deduced that 38.8% has the highest percentage rating occupiying ‘not given’.
- 600 customers gave 5 ratings which is the highest rating category of 31.0%
- 9.9% gives a 3 rating from about 200 customers.

Customer Ratings



Univariate Data Analysis – Delivery & food preparation time

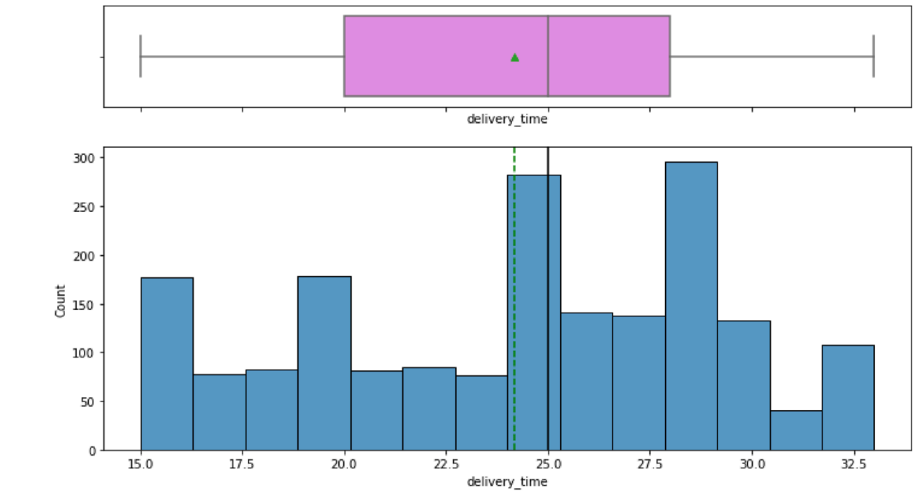
Food Preparation -Time



Observations

- There are no skew on either side of the boxplot, so they are symmetric.
- According to the diagram, 250 orders takes about 21 minutes to prepare which is the lowest time of most orders.
- There are also lots of orders made about 225 orders within the time of about 26minutes to 35minutes time frame order
- There are different times for food preparation between 20 to 35 minutes.
- The median food preparation time is 27.5.

Delivery -Time



Observations

- The cost of the order is 12 with the highest order of 350.This means people tend to order more when prices are low.
- The mean cost of order is 17 meaning low cost of order is a preference to most customers.
- The median is away from the middle which means its left skewed.

Exploratory Data Analysis – Delivery Time

The 5 Top Orders

Restaurant name	Order Id
Shake Shack	219
The meat ball Shop	132
Blue Ribbon Sushi	119
Blue Ribbon Fried Chicken	96
Parm	68

Observations:

- The restaurant with the highest order is shake shack with an order of 219. This means that more customer patronizes Shake Shack more than any other restaurant within the sample survey.

Exploratory Data Analysis – Most Popular Cuisine on Weekends

Most Popular Cuisine on Weekends

Popular Cuisine	Order Id
American	415
Japanese	335
Italian	207
Chinese	163
Mexican	53
Indian	49
Mediterranean	32

Observations:

- The most popular cuisine on the weekends is the American cuisine with 415 followed by Japanese with 335.

This indicates that American cuisine is the most ordered for.

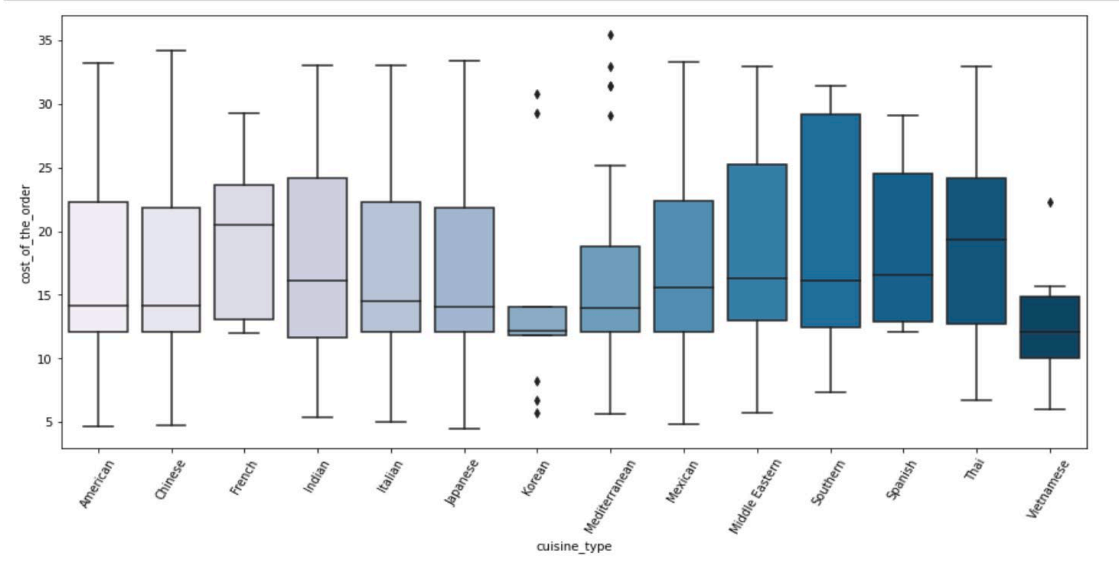
Exploratory Data Analysis

Top 5 most frequent customers

Customer id	Order Id
52832	13
47440	10
83287	9
250494	8
65009	7

Bivariate Analysis – Cuisine Type

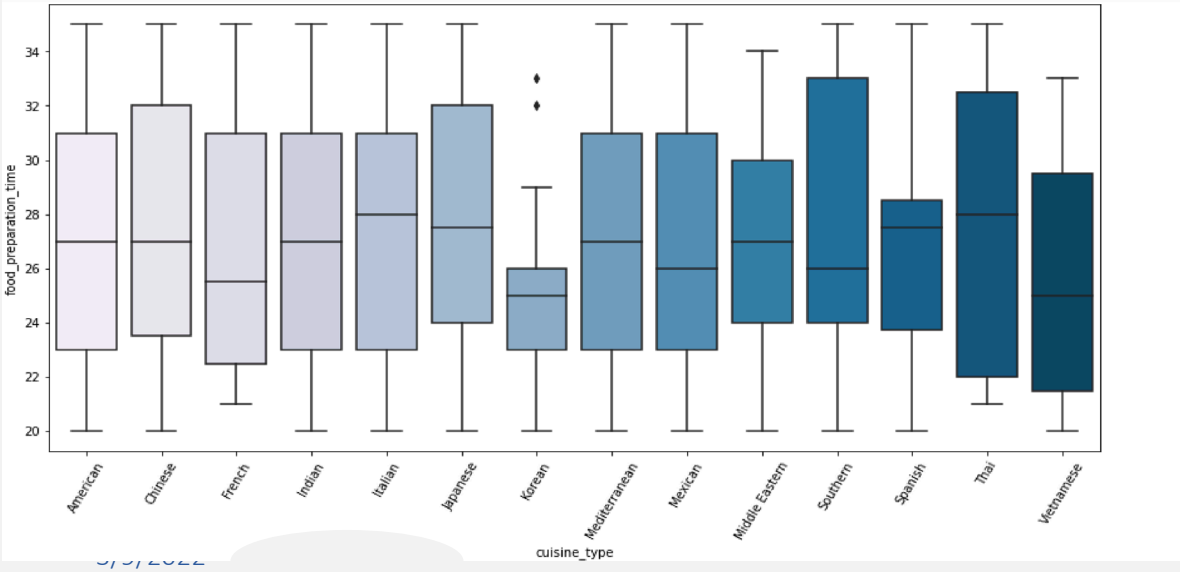
Cuisine & cost of order



Observations

- The presence of outliers/extreme values exist in only for the Korean, Mediterranean and Vietnamese cuisines.
- Korean and Vietnamese cuisines are cheaper than other cuisines.
- Spanish and French are more expensive according to the data analysis.

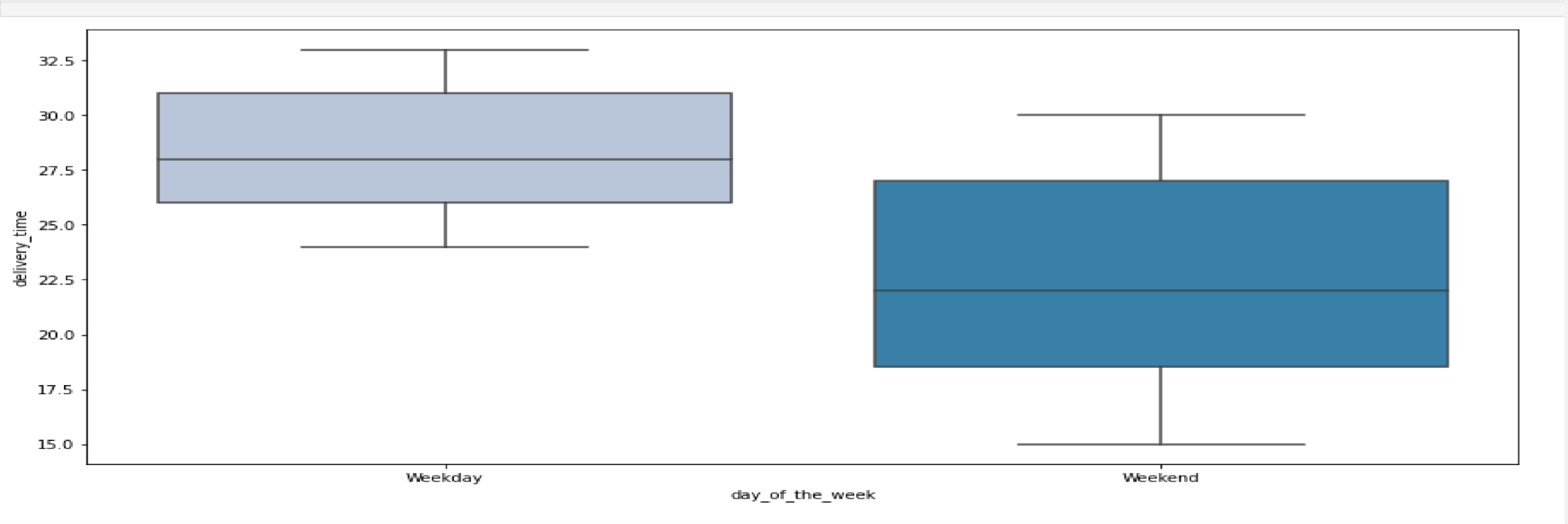
Preparation -Time



Observations

- It shows it takes longer time to prepare cuisines from the southern than any other cuisine type.

Bivariate Data Analysis – Delivery Time



Observations:

- During the weekend about 22minutes is taken as the average delivery time,30 minutes as maximum and minimum is 15 minutes.
- During the weekdays about 28minutes is taken as the average delivery time,31 minutes as maximum and minimum is 25 minutes.
- It can be deduced that it takes lesser time to deliver orders at the weekend than weekdays.
- There are no outliers on both period on weekends and weekdays

Exploratory Data Analysis – Revenue Generated by the Restaurants

Revenue generated by restaurants

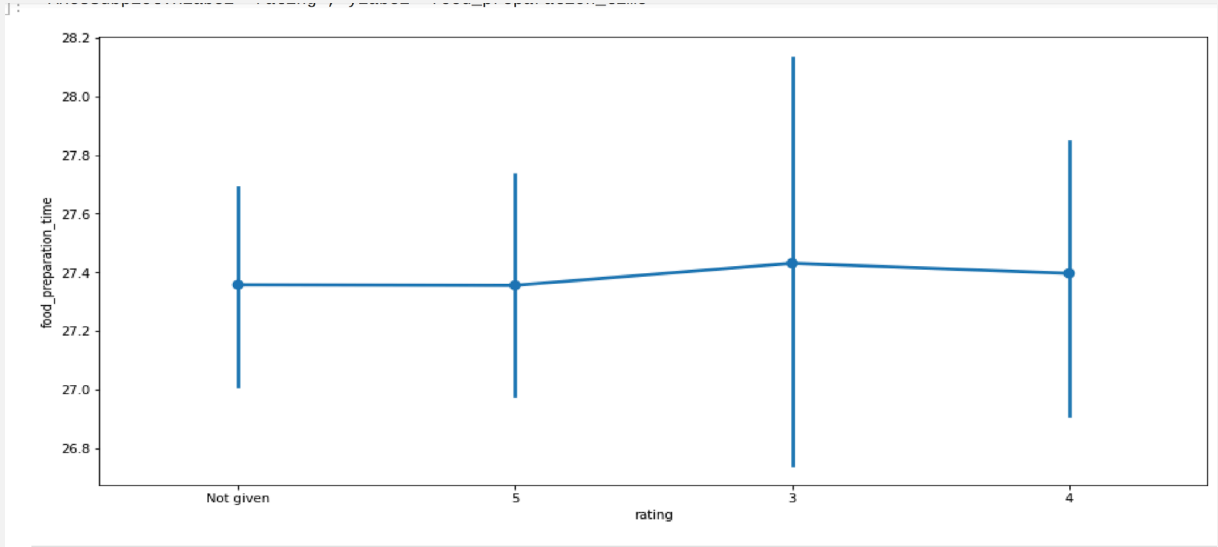
Restaurant name	Restaurant Revenue
Shake Shack	3579.53
The meat ball Shop	2145.21
Blue Ribbon Sushi	1903.95
Blue Ribbon Fried Chicken	1662.29
Parm	1112.76
RedFarm Broadway	965.13
RedFarm Hudson	921.21
Tao	834.50
Han Dynasty	755.29
Blue Ribbon Sushi Bar & Grill	666.62
Rubirosa	665.45
Sushi of Gari 46	640.87
Nobu Next Door	623.67
Five Guys Burgers and Fries	506.47

Observations:

- The restaurant Shake Shack has the highest revenue generated at 3579.53 followed by The meatball Shop and Blue Ribbon Sushi with 2145.21 and 1903.95 respectively.
- The lowest revenue generated is Five Guys Burgers and Fries.

Exploratory Data Analysis – Cuisine Type

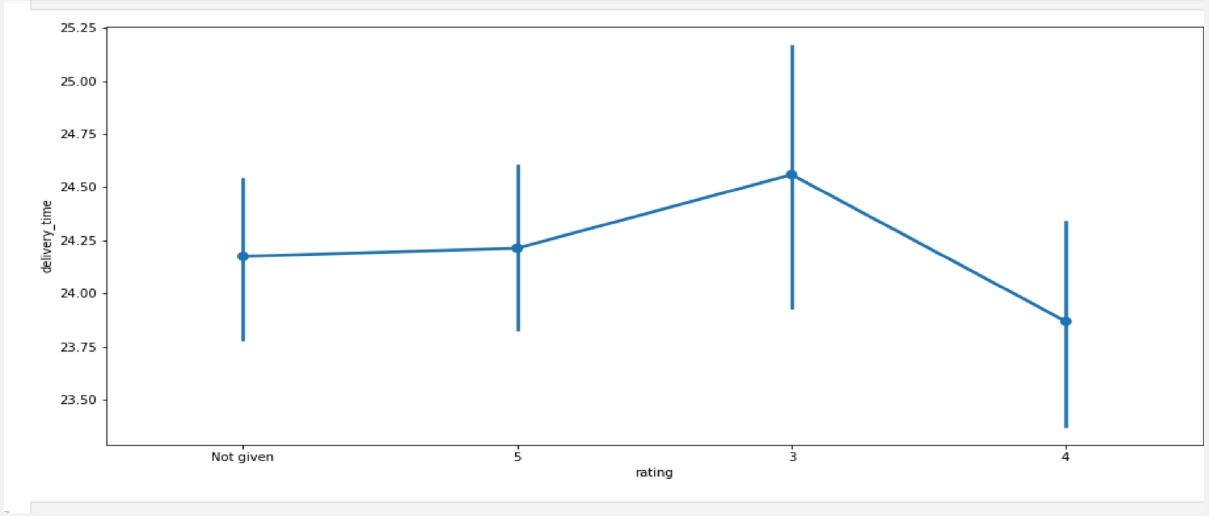
Food preparation time



Observations

- Food preparation time of 28 minutes had almost the same across the whole rating with slight differences.

Delivery Time

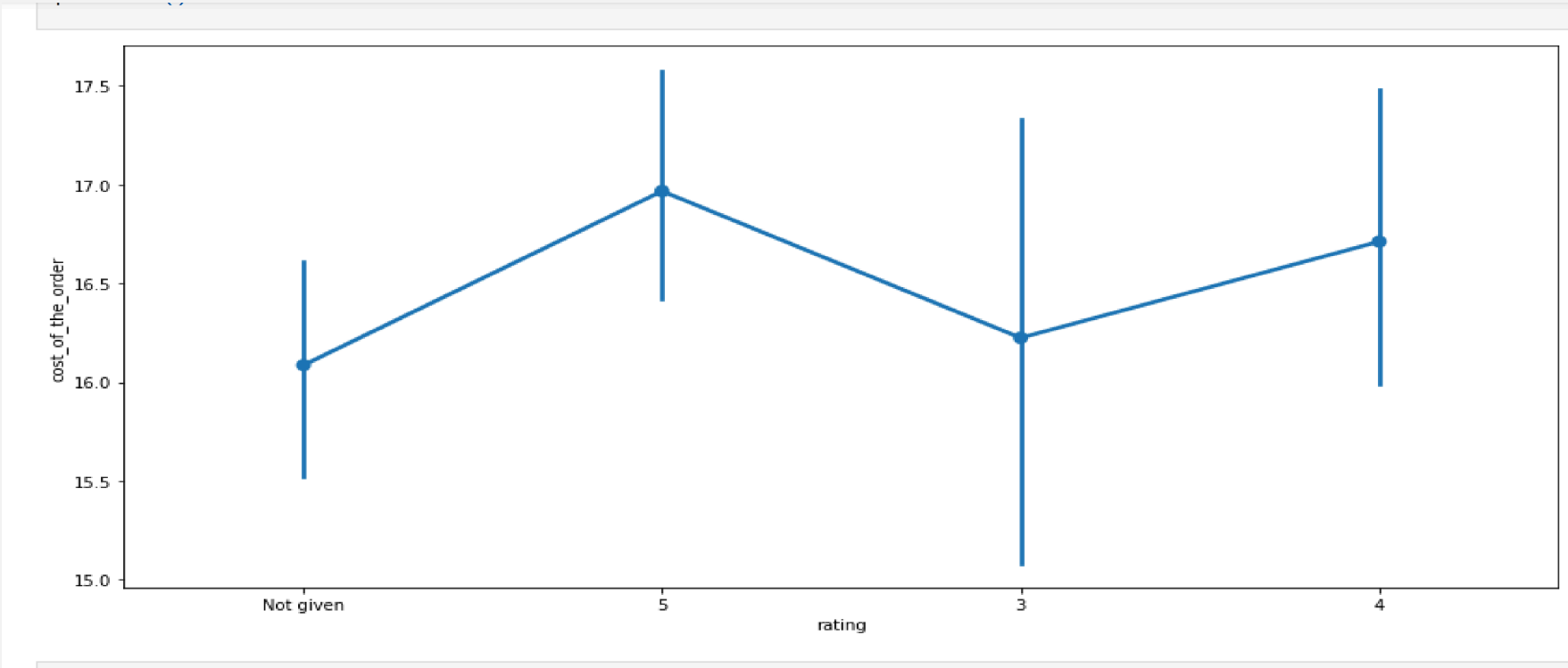


Observations

- Its deduced that 24.18 minutes frame did not rate at this time.
- This means a lot of customers are not satisfied with the delivery time.

Exploratory Data Analysis – Rating on Cost of Order

Cost of Order -Rating



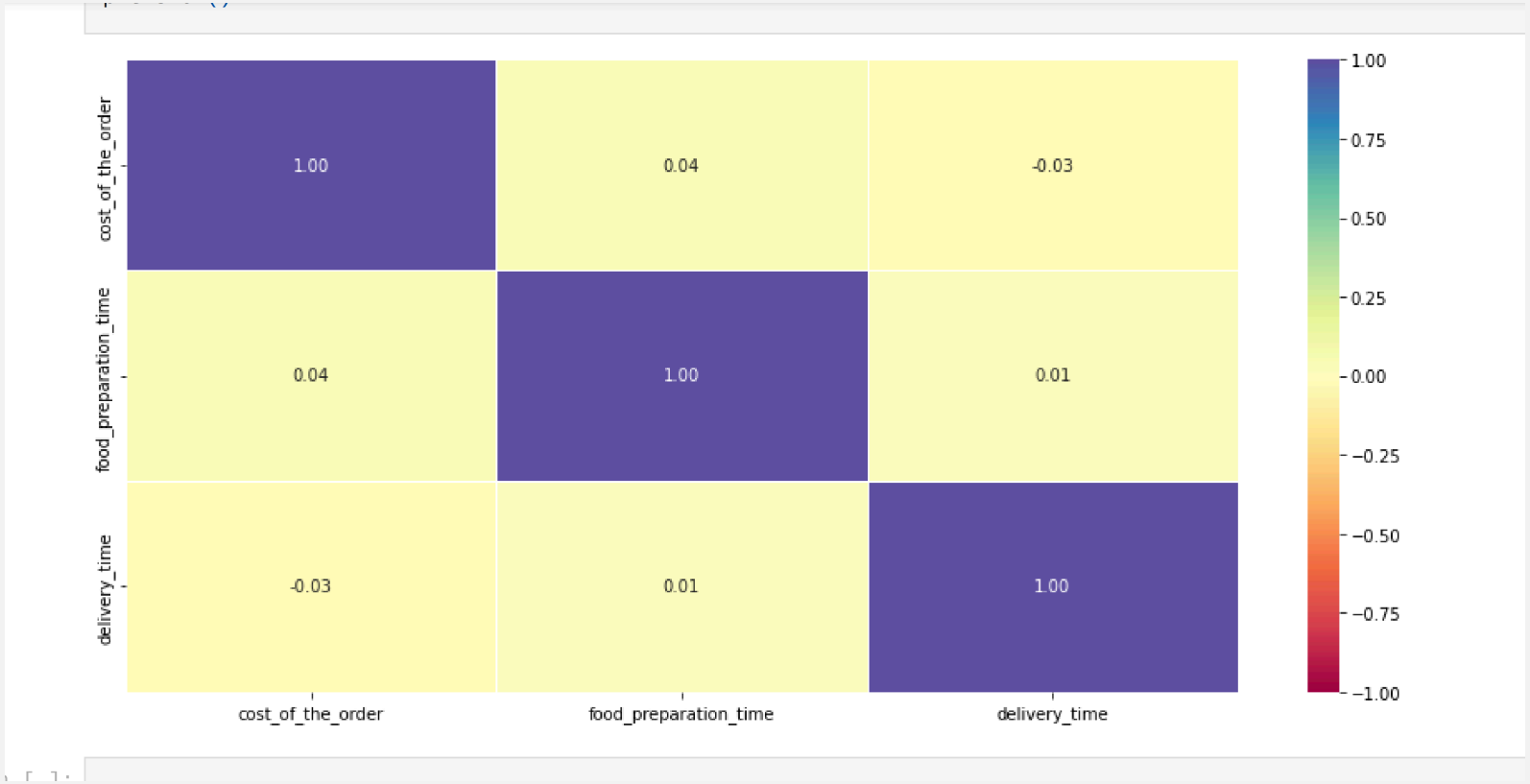
Observations:

- Cost of the order of 17 had the highest rating of 5.

  This signifies that customers order more at higher prices than of lower prices.

Exploratory Data Analysis – Rating on Cost of Order

Correlation variables Heatmap



Observations:

- The correlation between cost of order, food preparation time and delivery time is on the positive side of correlation

Exploratory Data Analysis – Restaurant with Highest Ratings

Restaurants with Highest Number Rating

Restaurant Name	Rating
Shake Shack	133
The Meatball Shop	84
Blue Ribbon Sushi	73
Blue Ribbon Fried Chicken	64
RedFarm Broadway	41

Observations:

- Shake Shack shows the highest '***number'*** of ratings (133), having more than 50 ratings.

Restaurants with Highest Rating

Restaurant Name	Rating
The Meatball Shop	4.511905
Blue Ribbon Fried Chicken	4.328125
Shake Shack	4.278195
Blue Ribbon Sushi	4.219178

Observations:

- The first 5 restaurants shown on the left states the Meatball shop has the highest rating of 4.5.

Exploratory Data Analysis –

Basic Analysis

- The orders that have more than 60 minutes of total delivery time is : 200.
- The percentage of orders above 60 minutes:10.54%
- The mean delivery time on weekdays is around 28 minutes
- The mean delivery time on weekend is around 22 minutes.
- The net Revenue is around 6166.3

Conclusion & recommendations

After all analysis have been collated, I conclude below that;

Conclusions

1. The dataset that has been analyzed here states, out of 14 cuisines provided its deduced that the customer of the various order of cuisine tends towards more on certain preferential choices.

2. American cuisines has more demands of 30.8% than any other cuisine type, followed by Japenes and Italian cuisines with 24.8% and 15.7% respectively.

3. It can be observed on the data set that 1351 orders were made during the weekends compared to 547 orders during the weekdays. Therefor its deduced that there are more orders during the weekends than the weekdays.

4. Food preparation is symmetric meaning there are within the time frame of the orders with little or no discrepancy's.

5. There are more demands and others from shake shack than any other cuisines followed by MeatBall shop and Blue Ribbon Sushi.

6. The total percentage of orders more than $20 is 29.24%. This means more orders are made below $20 which doesn’t break the customers pocket making food readily available at affordable prices.

7. There are 5 star rating on the cost of order at 17 (analysis from pointplot), meaning more people prefer to to pay for their cuisine order at that price.

Recommendations

According to the analysis gathered, the following recommendations that can help the business grow is stated below:

1. Price reduction on some specific cuisines will provide more revenue, since only 29.24% covers food of $20 and above.

2. More orders are made during the weekend, therefore cutting down delivery time brings an impression and happiness to the customer for the fast delivery.

3. Providing Business analytic strategies towards the supply and demand food chain, creates an avenue for revenue or better profit making.

4. Food order is here to stay. Provisions of different types and forms of cuisines opens more means to generate more profit and expansion to a greater scale across the country.

5. Reducing price of orders will generate more customers as deduced on the cost of order in the dataset.

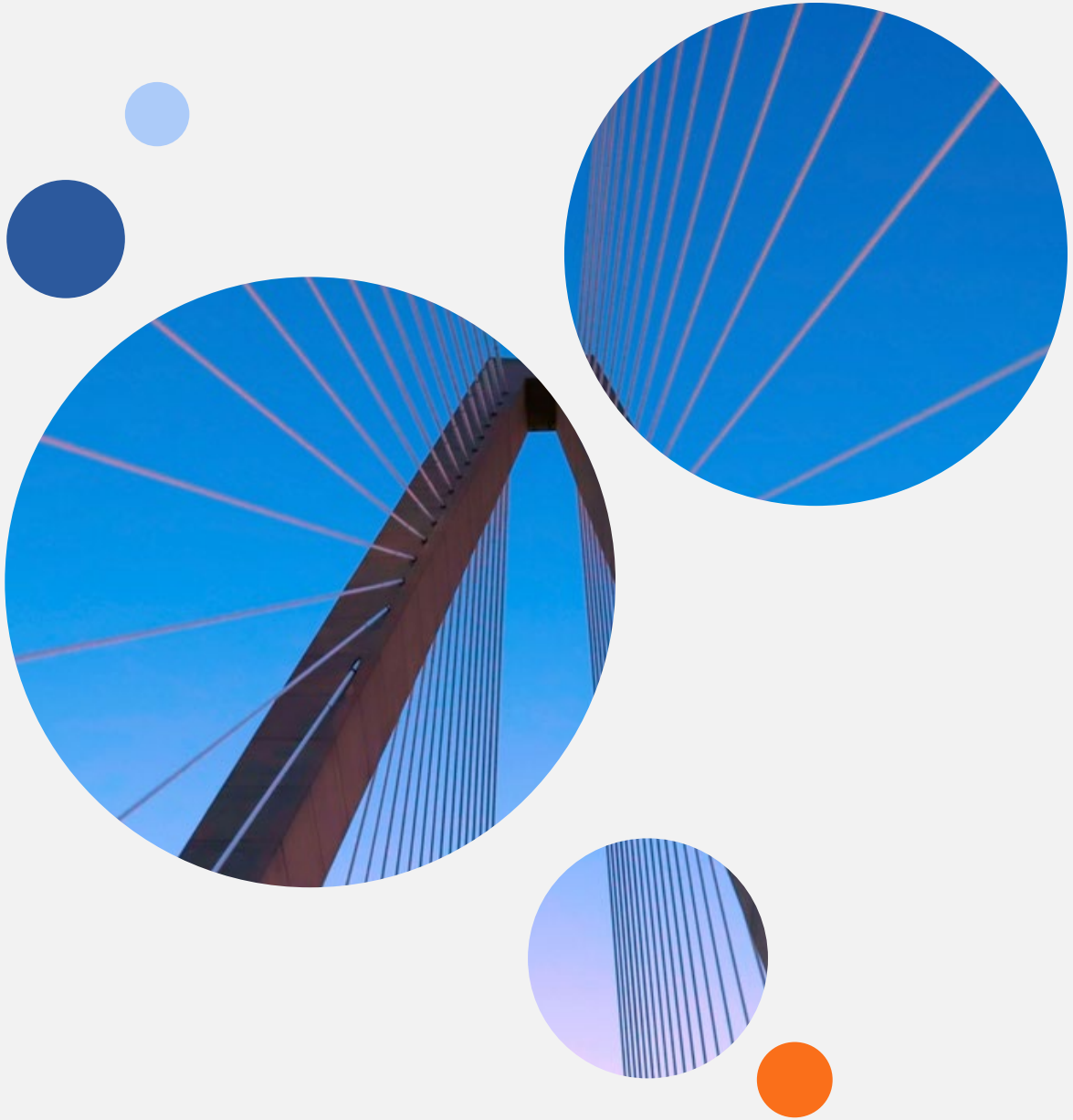
6. The percentage of orders above 60 minutes is about 11% meaning it takes a longer time to prepare and deliver this type of orders.

7. Making Specials/promotions available on weekdays. Half prices too of specific cuisines opens up for more others thereby making request for others increase. Thereby increasing revenues.

FOODHUB DATA ANALYSIS COMPLETE

A satisfied customer

Pleasure doing Business with you.



Victor Adeyemi Adebesin