Level up customer satisfaction

FoodHub

Foundations for Data Science

Date: 10/09/23

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Contents / Agenda

Executive Summary

- Customer satisfaction = returned customer

- Level up customer satisfaction by reducing prep and delivery time
- Develop incentive program for drivers/delivery personal to allow lower delivery times
- Explore alternative ways to deliver orders
- Explore a better driver notification system to allow for faster delivery response.
- Integrate traffic maps into FoodHub app for drivers to see a better route to their final destination and to pair them with the closest next delivery option.

Business Problem Overview and Solution Approach

Opportunities for improvement:

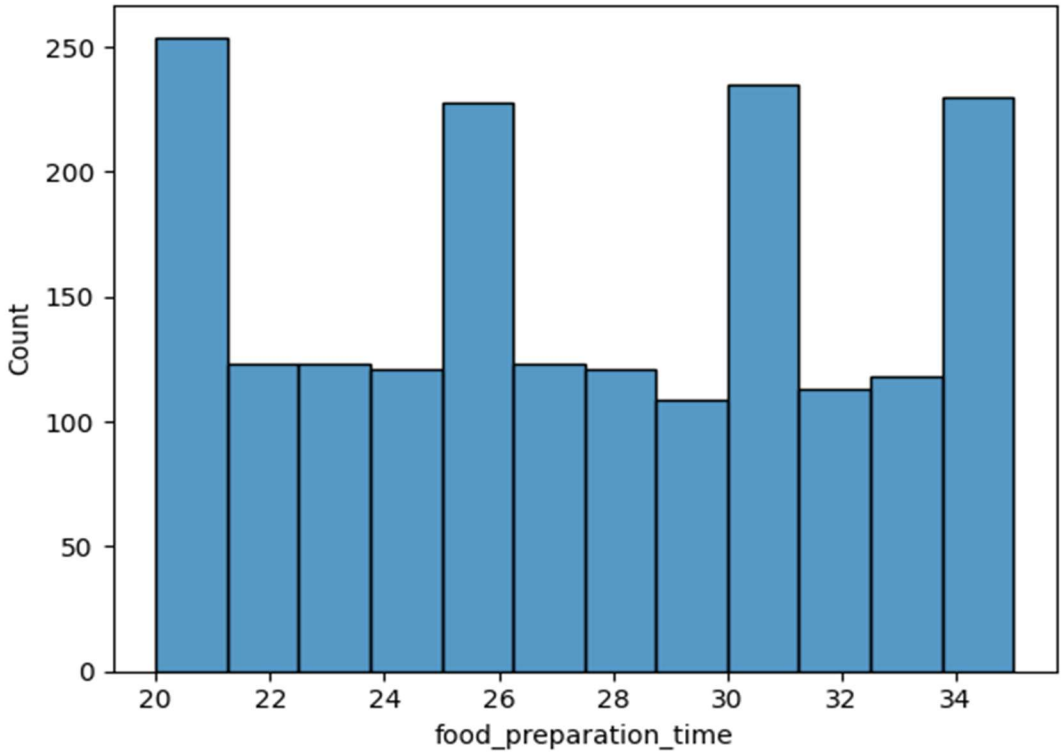
- Order preparation and delivery time are too high
- Lack of weekday orders

Recommendation:

- Enhance customer experience thru reduced delivery, order prep time

Data Overview

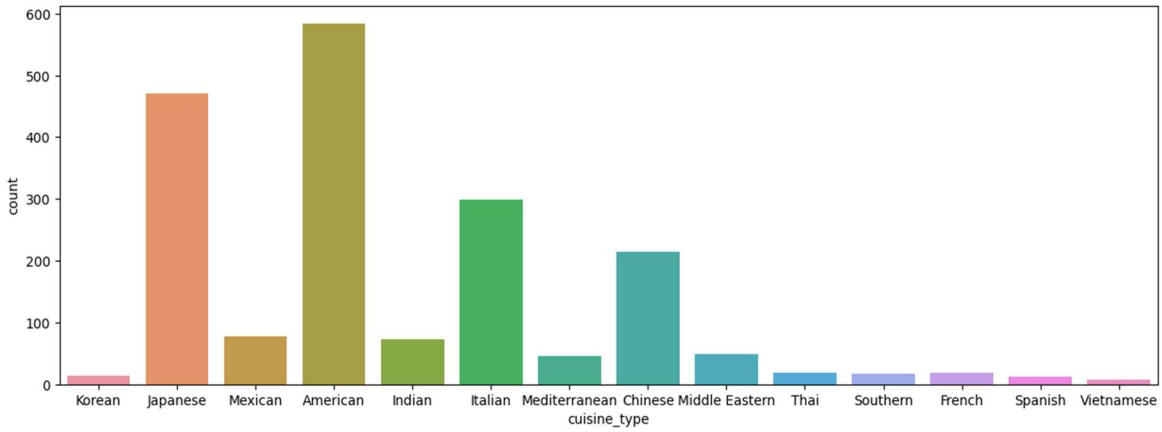
- Data set included 1828 rows and 9 columns
- Data types of the columns are floats, integers, objects.
- There were no missing values in the data set
- The minimum time it takes for food to be prepared once an order is placed is 20 minutes
- The maximum time it takes for food to be prepared once an order is placed is 35 minutes
- The average time it takes for food to be prepared once an order is placed is close to 28 minutes.



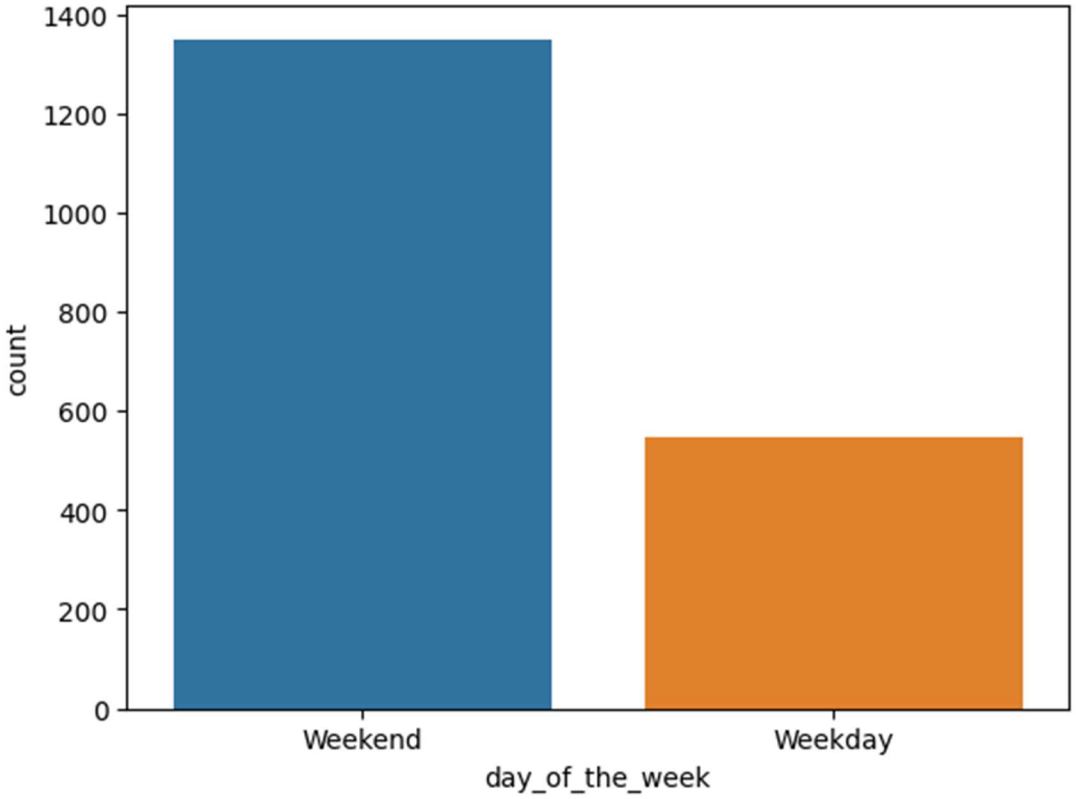
- The number of orders not rated is 736 or 39% of all orders.

Univariate Analysis

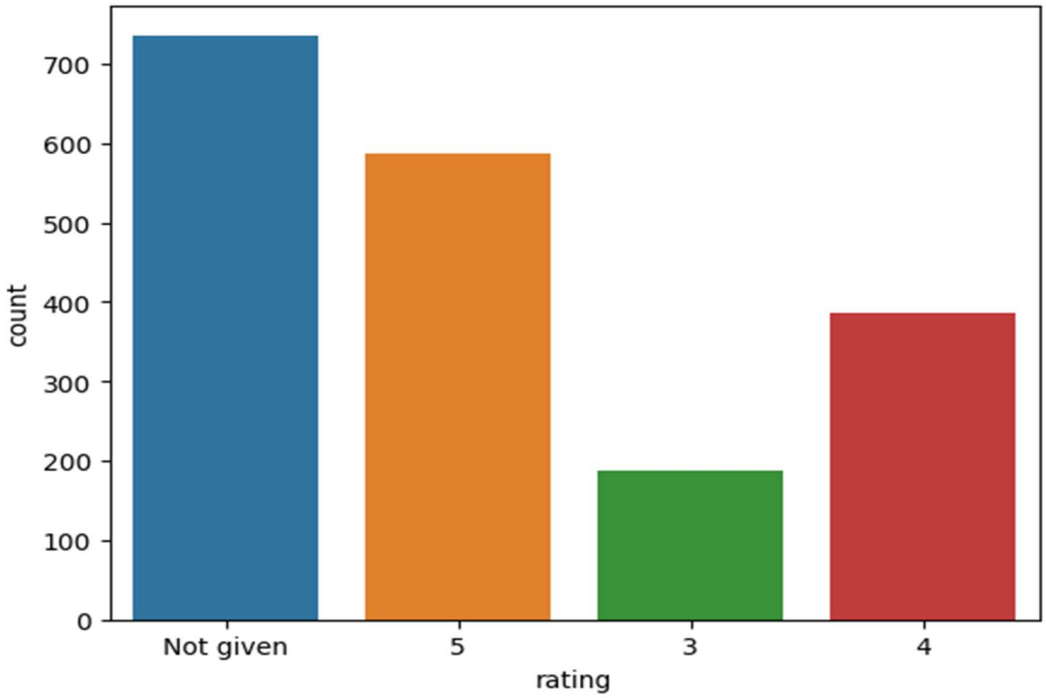
- Univariate analysis:
  - There are 1898 unique order IDs listed which means our sample size is 1898.
  - There are 1200 unique customers that made their orders.
  - There are 178 unique restaurant names listed in the data set.
  - There are 14 unique cuisine types listed in the data set.
  - Data set shows American and Japanese cuisines are among the favored in New York and have the highest number of orders.



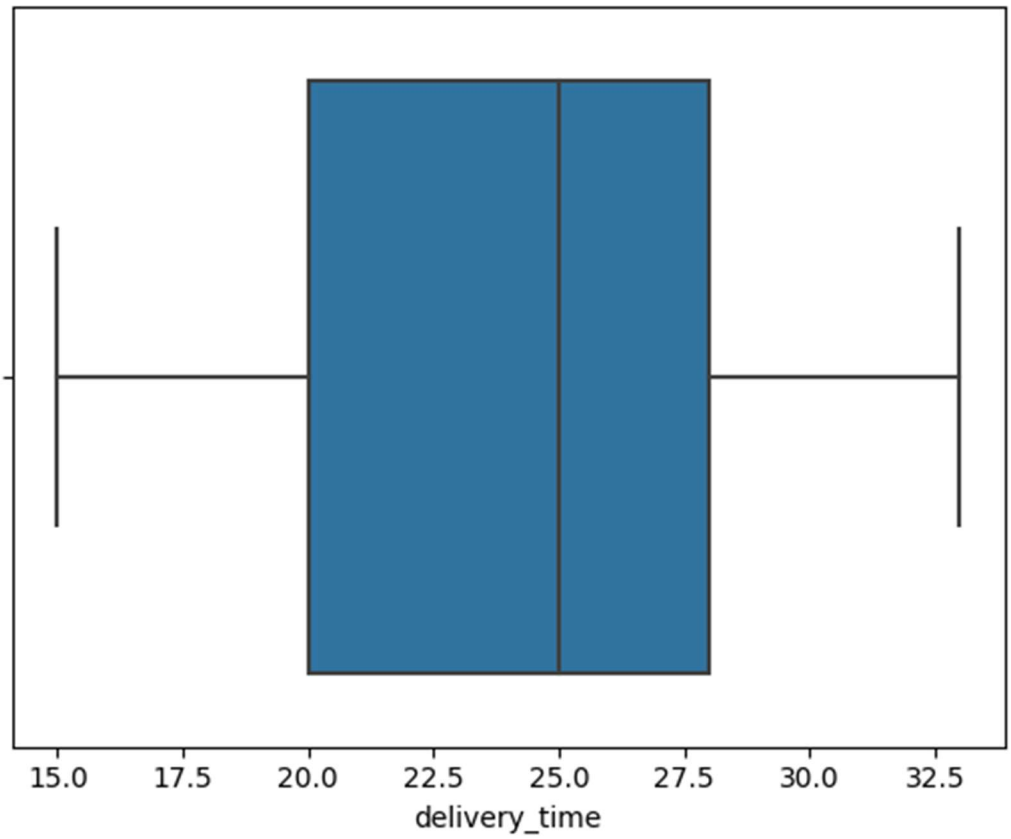
  - The highest number of orders were received in 12 dollar per order range. The mean cost of each order is around $14.
  - Data set represents more orders were made on weekends by a margin of over 200% then during the weekdays.



- **There were only 4 types of ratings listed in the data set. No 1 and 2 ratings on the report.**



- **Vast majority of orders delivered between 20 and 28 minutes.**



- **Top 5 restaurants that received the most number of orders are :**

```
Shake Shack                  219
The Meatball Shop            132
Blue Ribbon Sushi            119
Blue Ribbon Fried Chicken     96
Parm                          68
```

- **Most popular cuisine on weekends is American cuisine**
- **The number of total orders that cost above $20 is: 555 or 29.24 %. Over 70% of orders were less than $20 each.**
- **The mean delivery time for this dataset is 24 minutes (rounded)**
- **The most an individual has ordered using FoodHub app was 13 meals.**

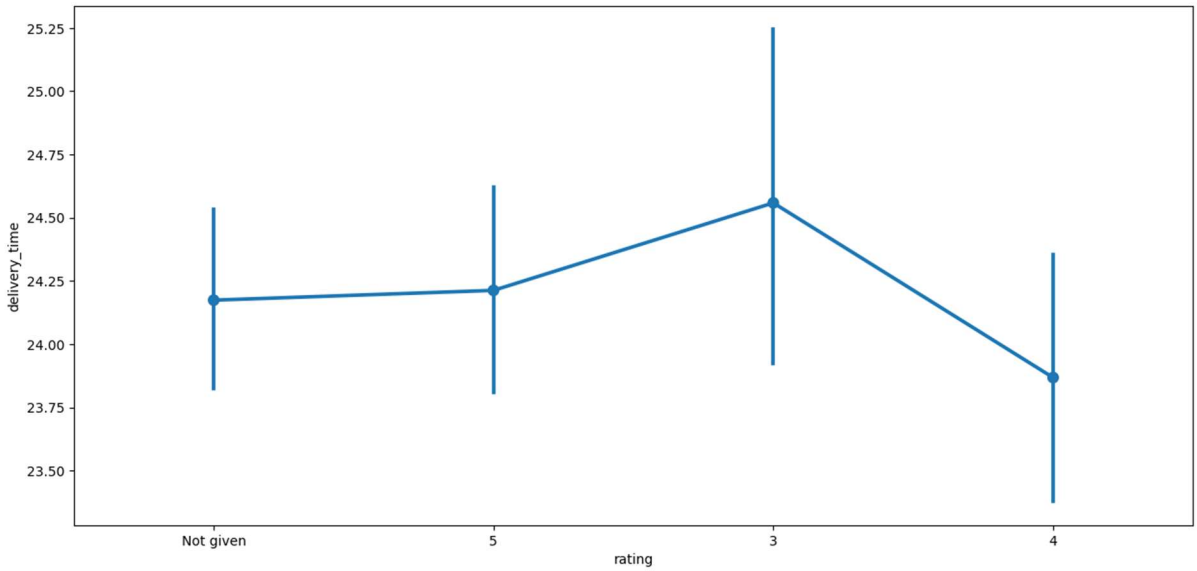
Multivariate Analysis

- The cost of the order relationship to cuisine type has a mean dispersion between $12 and $25 per order with Korean and Vietnamese cuisines being an outliers with lower values which could be simply due to lack of available data(low volume of orders).
- Cuisine vs Food preparation time multivariate analysis showed almost uniform dispersion in 23 to 31 minute range.
- Day of the week vs delivery time illustrates longer amount of time required to get orders delivered on weekdays as opposed to weekends which could well be due to the amount of traffic on the road during weekdays.
- The top revenue producers are Shake Shack, The Meatball Shop, Blue Ribbon Sushi, Blue Ribbon Fried Chicken, and Parm.

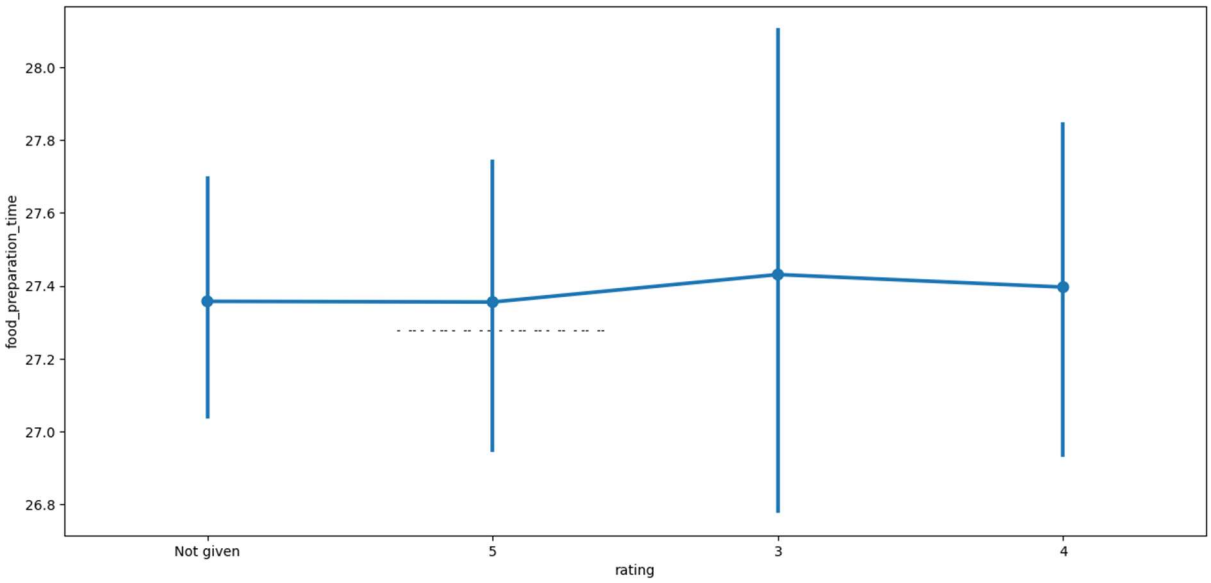
Shake Shack	3579.53
The Meatball Shop	2145.21
Blue Ribbon Sushi	1903.95
Blue Ribbon Fried Chicken	1662.29
Parm	1112.76
RedFarm Broadway	965.13
RedFarm Hudson	921.21
TAO	834.50
Han Dynasty	755.29
Blue Ribbon Sushi Bar & Grill	666.62
Rubirosa	660.45
Sushi of Gari 46	640.87
Nobu Next Door	623.67
Five Guys Burgers and Fries	506.47

- Relationship between rating and delivery time showed an interesting phenomenon where those that chose not to leave a

rating were the once that received their food the fastest.



- Rating vs Food preparation time also fell in line with previous observation and confirmed that those that left no rating got their food prepared the fastest. On the other hand both charts show strong correlation of low score of those that took the longest to prepare and deliver the food.



- Rating vs cost of the order showed more expensive orders received better ratings with not rated falling between $15.5 and $16.75 per order.
- Heatmap showed very little correlation between cost of the order and delivery time and very strong correlation between food preparation time and delivery time. Reducing delivery time and preparation time could lead to a better experience for the customer which will result in better rating hence more engagement with FoodHub services.
- Promotional offer to drive more business to restaurants with more than 50 ratings of above 4 show the top revenue producers:

	restaurant_name	rating
2	Shake Shack	133.0
3	The Meatball Shop	84.0
1	Blue Ribbon Sushi	73.0
0	Blue Ribbon Fried Chicken	64.0

- The net revenue is around 6166.3 dollars
- Percentage of orders that take more than 60 minutes to get delivered from the time of the order is placed is: 10.54 %
- The mean delivery time on weekdays is around 28 minutes
- The mean delivery time on weekends is around 22 minutes

Conclusions and Recommendations

Conclusions:

- **The data set provided was a great resource in compiling an intuitive report and provided enough data to make following recommendations.**
- **Multivariant analysis revealed very strong correlation between food preparation time and delivery time. Reducing delivery time and preparation time could lead to a better experience for the customer which will result in better rating hence more engagement with FoodHub services.**
- **Day of the week vs delivery time illustrates longer amount of time required to get orders delivered on weekdays as opposed to weekends which could well be due to the amount of traffic on the road during weekdays.**

Recommendation:

- **Work with delivery staff to reduce delivery time to allow for greater customer satisfaction and repeat business. Offer incentives for faster than average delivery.**
- **Work with vendors/restaurants to reduce order preparation time by prioritizing online orders made thru FoodHub app so that orders may be delivered quicker to customers. Continue to provide promotional offers to top vendors with highest ratings and order volume.**
- **Continuing to promote discounts for the most committed customers have a potential of generating more revenue for the company.**

- **The solution can be explored to increase delivery time during the weekdays by exploring alternative delivery methods such as electric scooter, bicycle delivery options in a heavily populated areas with excessive traffic during the work days.**
- **Explore a better driver notification system to allow for faster delivery response.**
- **Integrate traffic maps into FoodHub app for drivers to see a better route to their final destination and to pair them with the closest next delivery option.**