FoodHub Business Presentation

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Business Problem Overview and Solution

FoodHub is a food aggregator company that facilitates delivery of takeout services by a number of restaurants. The company is interested in analysing their data to "get a fair idea about the demand of different restaurants," with the goal of "enhancing their customer experience."

I want to research the dataset provided by FoodHub to identify possible problems and recommend solutions to the end of improving the experience of FoodHubs customers.

FoodHub earns money by collecting a fixed margin of the order cost from each delivery instance. To that end, increasing the company's demand for service by identifying opportunities to improve service by minimizing delivery time will be key based on data available.

Data Overview

- 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

The above information was manipulated to create a number of different data sets including separating weekday / weekend statistically, combining food preparation time with delivery to create a total order time, and combining order stats by cuisine type. Additionally, orders not rated by customers were dropped from consideration when examining some statistical aspects of the order; they did not add any valuable data to the information.

Exploratory Data Analysis

	index	cuisine_type
0	American	584
1	Japanese	470
2	Italian	298
3	Chinese	215
4	Mexican	77
5	Indian	73
6	Middle Eastern	49
7	Mediterranean	46
8	Thai	19
9	French	18
10	Southern	17
11	Korean	13
12	Spanish	12
13	Vietnamese	7

This list indicates the popularity of each cuisine type offered by FoodHub. In the market in question we see a large drop off from the BIG4 cuisine types (American, Japanese, Italian, Chinese) .

Adding locations that serve these types of fare should provide FoodHub with more popular eateries to place orders. That should enhance user experience.
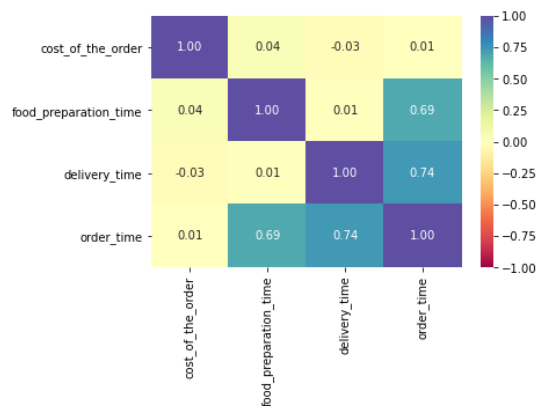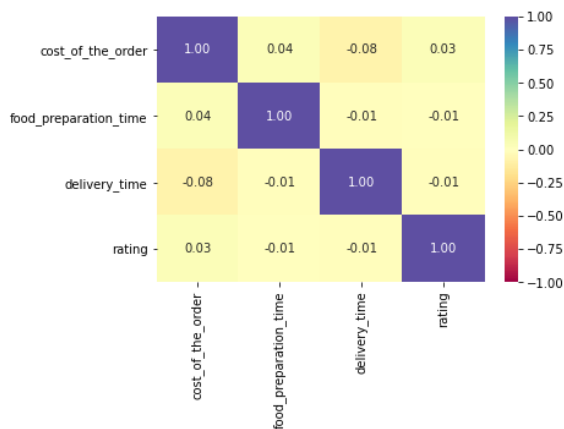
The above heat maps show the shockingly low correlation between the food prep time, delivery and the user rating (left). Overall completion of an order is however highly correlated with food preparation and delivery, unsurprisingly.
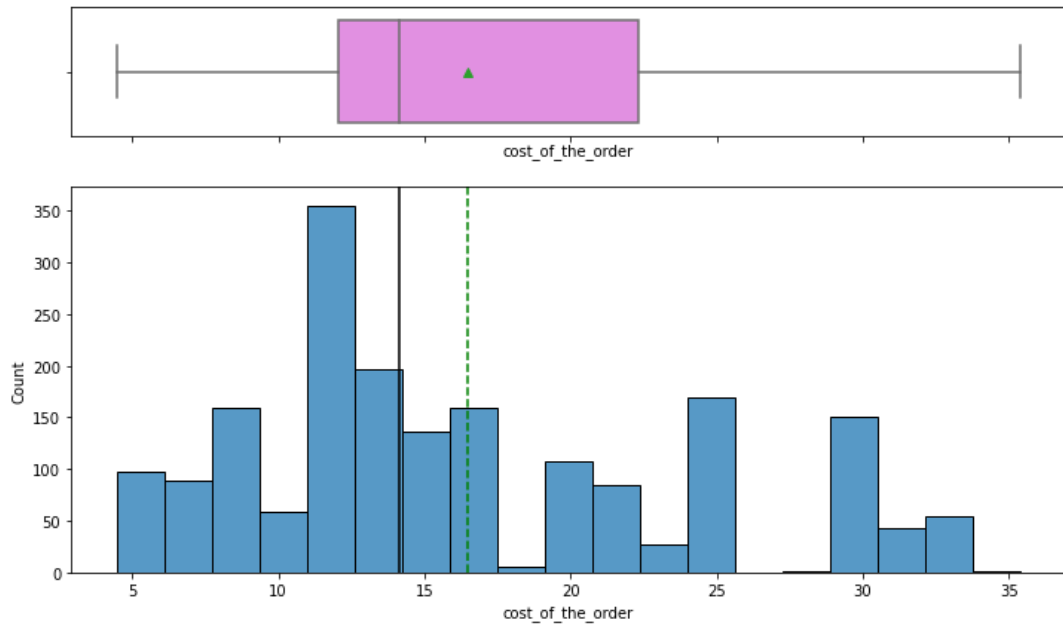
The average order on the app is above 15 dollars, and most of them are clustered below the mean. The median for example is below 15 dollars so there is some skewness. There aren't any orders so far outside the normal to consider them outliers. It doesn't appear that any FoodHub customers are using the app to fill very large orders. Users are not having the service to provide food for any types of gatherings. This means the company should focus on its core business of delivering meals.
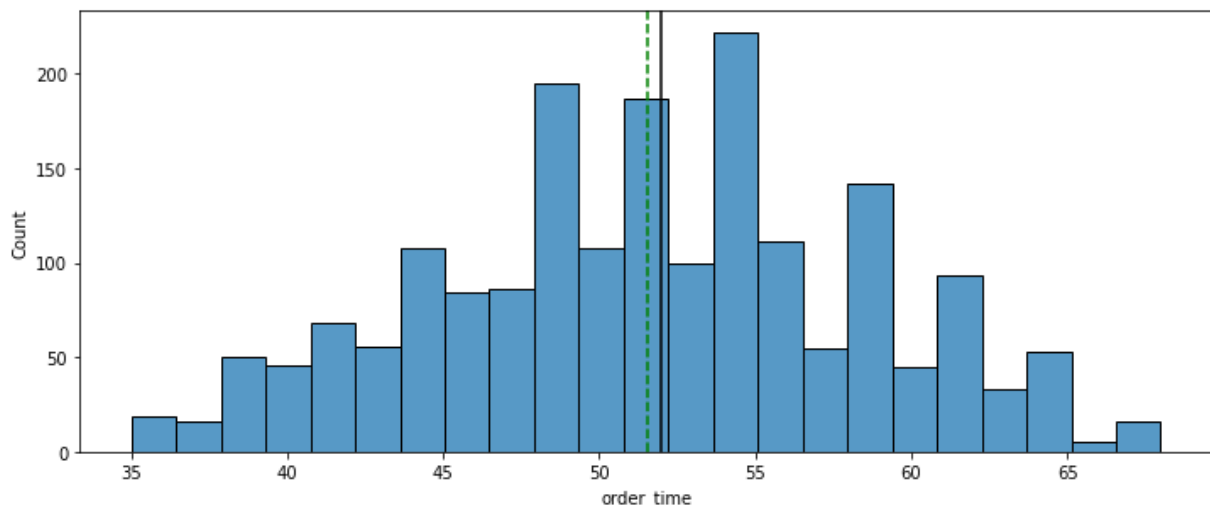
Delivery times are a strong normal curve, dictating that times are stable around 50 to 55 minutes per order. As shown before, rating is not significantly affected by time. However, delivery time and overall demand is higher on the weekends (55 mins) than weekdays (49 mins).

Recommendations

American food is the most popular. Foodhub service is most popular on the weekend However, it takes longer to complete orders on the weekend than the weekday. The orders are usually between 10 and 17 dollars. Most users rate their experience highly. Foodhub needs to have more drivers on the weekdays to improve delivery time. Any attempts to recruit new restaurants to the app should focus on the 4 top orders types American, Japanese, Italian and Chinese as those are far and away the most popular types of cuisine.
The volume of requests is very high on the weekend, but weekday delivery time is higher than Weekend so foodhub needs to have more ground level employees delivering during the week.