

Project: Analyzing a Market Test

Complete each section. When you are ready, save your file as a PDF document and submit it [here](#).

Step 1: Plan Your Analysis

*To perform the correct analysis, you will need to prepare a data set. (500 word limit)
Answer the following questions to help you plan out your analysis:*

1. What is the performance metric you'll use to evaluate the results of your test?
[The sum of gross margin](#)
2. What is the test period?
[12 weeks \(2016-April-29 to 2016-July-21\)](#)
3. At what level (day, week, month, etc.) should the data be aggregated?
[Week](#)

Step 2: Clean Up Your Data

In this step, you should prepare the data for steps 3 and 4. You should aggregate the transaction data to the appropriate level and filter on the appropriate data ranges. You can assume that there is no missing, incomplete, duplicate, or dirty data. You're ready to move on to the next step when you have weekly transaction data for all stores.

Step 3: Match Treatment and Control Units

In this step, you should create the trend and seasonality variables, and use them along with you other control variable(s) to match two control units to each treatment unit. Note: Calculate the number of transactions per store per week to calculate trend and seasonality.

Apart from trend and seasonality...

1. What control variables should be considered? Note: Only consider variables in the RoundRoastersStore file.
[Average monthly sales](#)
2. What is the correlation between each potential control variable and your performance metric?
[Using Pearson Correlation Analysis, average monthly sales has a high correlation of about 0.98 while Square Feet has a poor correlation of -0.07](#)
3. What control variables will you use to match treatment and control stores?
[Average monthly sales, trends and seasonality](#)
4. Please fill out the table below with your treatment and control stores pairs:

Treatment Store	Control Store 1	Control Store 2
1664	1964	8562
1675	1807	7584
1696	1863	7584
1700	7037	1508
1712	8162	7434
2288	2568	9081

2293	12219	9639
2301	11668	12019
2322	9238	9388
2241	2572	3102

Step 4: Analysis and Writeup

Conduct your A/B analysis and create a short report outlining your results and recommendations. (250 words limit)

Answer these questions. Be sure to include visualizations from your analysis:

1. What is your recommendation - Should the company roll out the updated menu to all stores?

Yes. This is because the profit margin rose by more than 18%

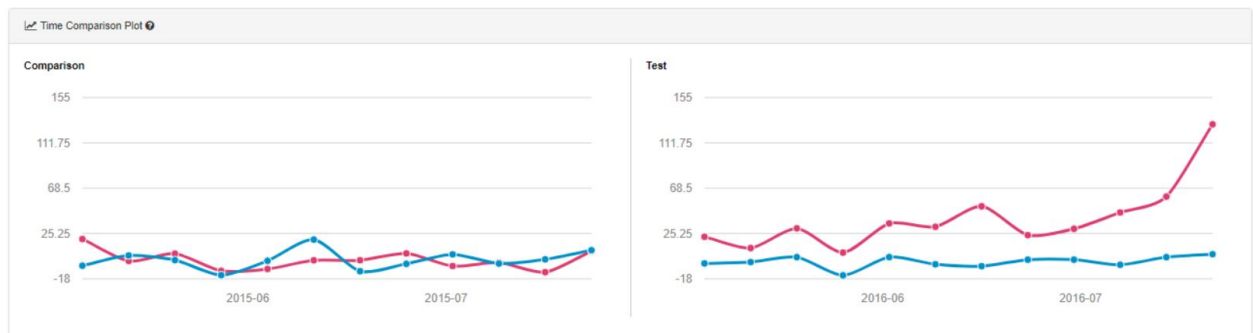
2. What is the lift from the new menu for West and Central regions (include statistical significance)?

The lift for the West region is 37.9 % and a statistical significance of 99.5% while the central region has a lift of 43.5% and a statistical significance of 99.6%

West region



Central region



3. What is the lift from the new menu overall?

The lift for the new menu is 40.7% and a significance of 100%.

Before you Submit

Please check your answers against the requirements of the project dictated by the [rubric](#) here. Reviewers will use this rubric to grade your project.