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?
   ANS: the gross margin is he performance metric used to evaluate the results of the test
2. What is the test period?
   The test period was between 4-29-2016 to 7-21-2016. The test was for a period of 12 weeks.
3. At what level (day, week, month, etc.) should the data be aggregated?
   Ans: The data should be aggregated at the week level

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.
   ANS: Avgmonthsales and Sq_Ft should be considered as control variable apart from trend seasonality.
2. What is the correlation between your each potential control variable and your performance metric?
   Ans: The pearson correlation analysis tool was to look at the correlation between the appropriate numeric variables in the round roasters stores avgmonthsales and Sq_ft with the performance metric gross margin.
3. What control variables will you use to match treatment and control stores?
   ANS: Avgmonthsales is the control variable that will be used to match treatment and control stores.
4. Please fill out the table below with your treatment and control stores pairs:

Treatment Store	Control Store 1	Control Store 2
1664	7126	8112
1675	1580	1807

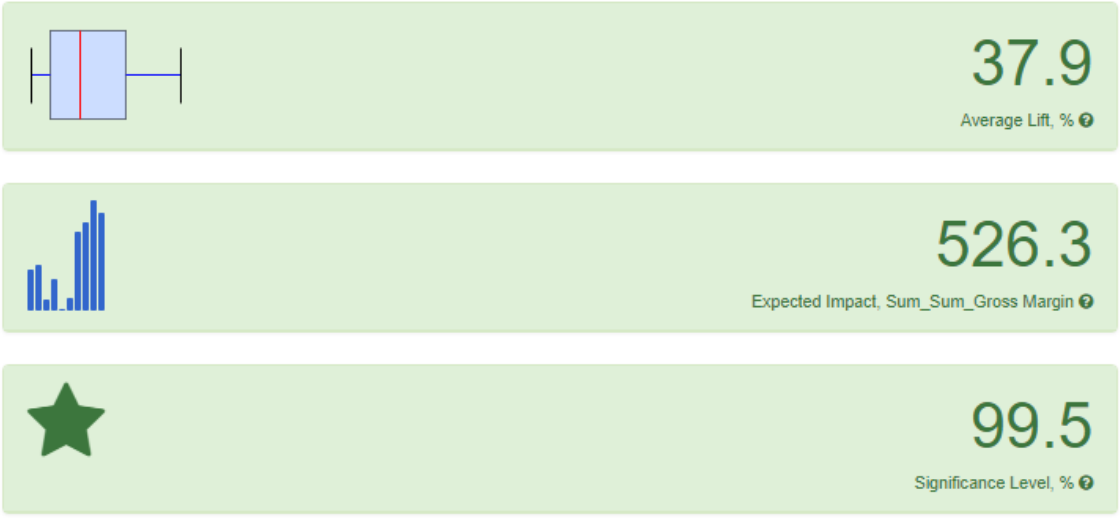
1696	1964	1863
1700	2014	1630
1712	8162	7434
2288	9081	2568
2293	12219	9524
2301	3102	9238
2322	2409	3235
2341	12536	2383

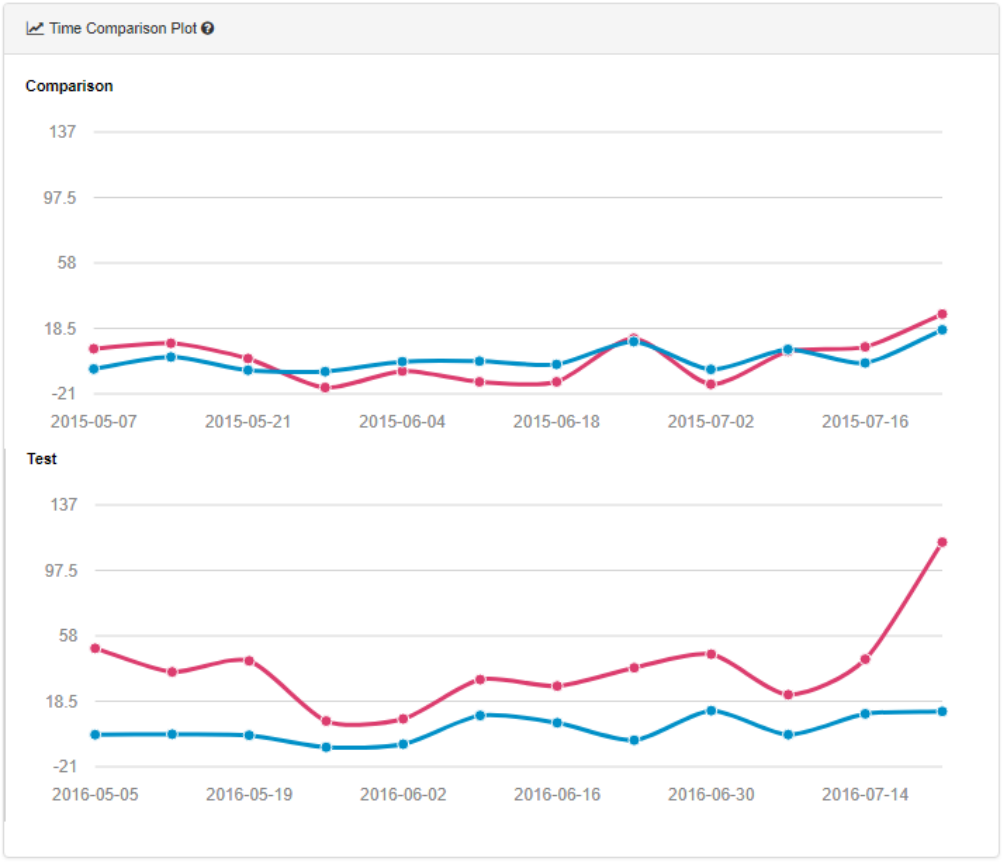
Step 4: Analysis and Writeup

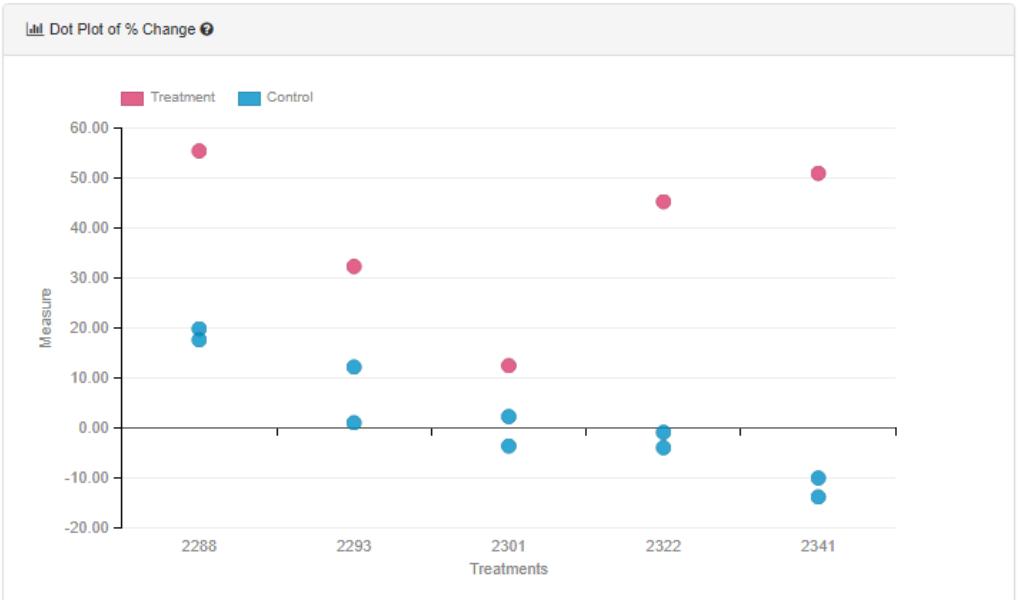
Conduct your A/B analysis and create a short report outlining your results and recommendations. (250 words limit)

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

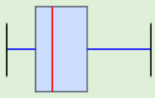
1. What is your recommendation - Should the company roll out the updated menu to all stores?
   ANS: The company should roll out all updated menus to all the stores.
2. What is the lift from the new menu for West and Central regions (include statistical significance)?
   ANS: The average lift for the west region is 37.9% and the significance level is 99.5%







Central region: the Average Lift is 43.5% and the Significance Level is 99.5%.



43.5

Average Lift, %

835.5

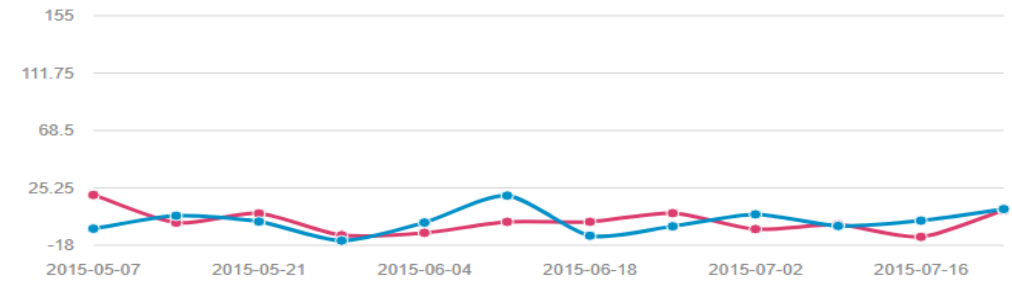
Expected Impact, Sum_Sum_Gross Margin

99.5

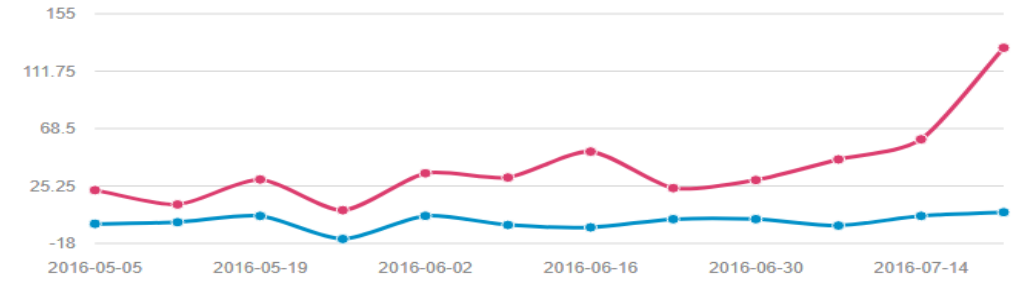
Significance Level, %

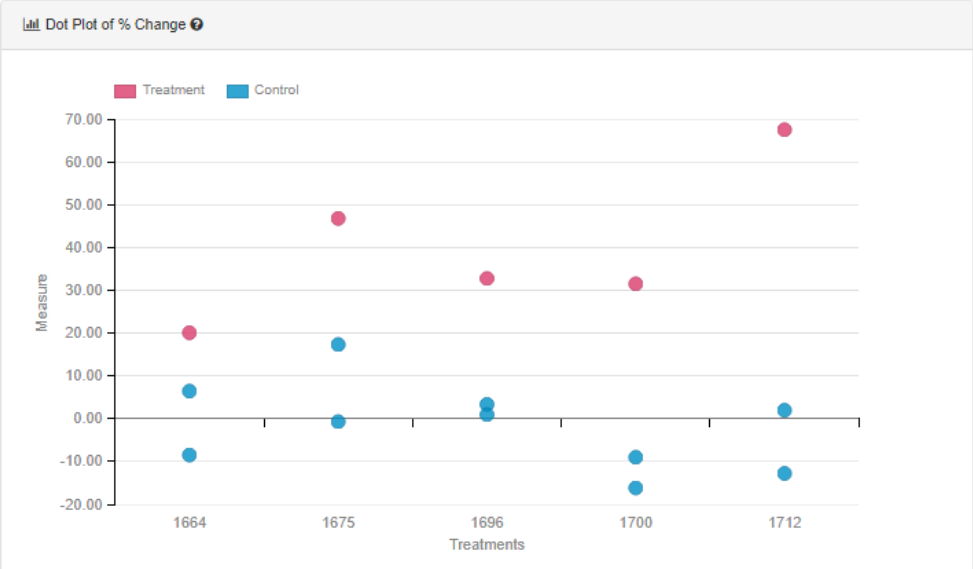
Time Comparison Plot

Comparison



Test





3. What is the lift from the new menu overall?
   Ans: the lift from the new menu is 40.7%

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.