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 performance metric we have to evaluate the results of the test is the gross_margin (profit) metric.

2. What is the test period?

ANS - The test ran for a period of 12 weeks (2016-April-29 to 2016-July-21)

3. At what level (day, week, month, etc.) should the data be aggregated?

ANS - The data should be aggregated on a 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.

Completed

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 – For this exercise avgmonthlysales should be considered as a control variable. Square feet should not be considered because of the low correlation between square feet and total gross margin

2. What is the correlation between your each potential control variable and your performance metric?

ANS – correlation between avgmonthlysales and sum of gross margin (performance metric) is very high – 0.99. However correlation between sq_ft and sum of gross margin is very low.

Full Correlation Matrix

	sum_gross_margin	Sq_Ft	AvgMonthSales
sum_gross_margin	1.000000	-0.024255	0.990982
Sq_Ft	-0.024255	1.000000	-0.046967
AvgMonthSales	0.990982	-0.046967	1.000000

3. What control variables will you use to match treatment and control stores?

Ans - We will use avg monthly sales along with trend and seasonality 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	7162	1964
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	2386

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 – Yes the company should roll out the menu to all stores.

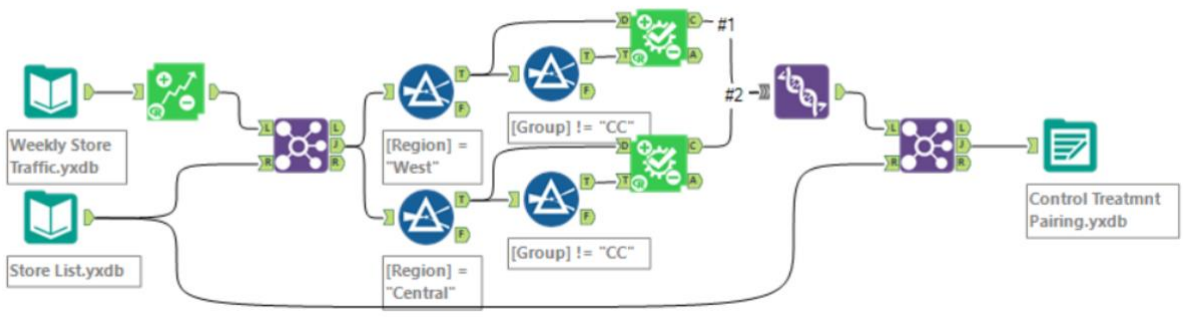
2. What is the lift from the new menu for West and Central regions (include statistical significance)?

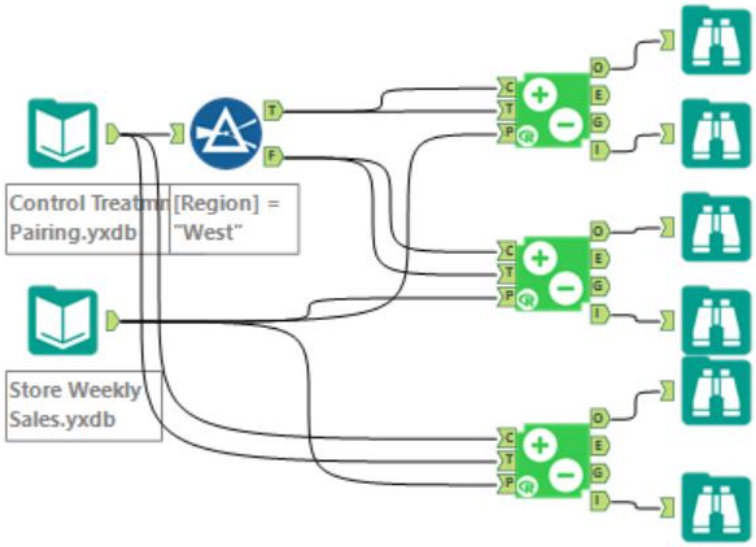
ANS – Lift and significance level for west region is 37.9% and 99.5% respectively. Lift and significance for central region – 42.3% and 99.5% respectively

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

ANS – Lift from the new menu overall is 40.1%

Alteryx Workflow





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.