A/B Test A New Menu Launch

Planning A/B Analysis

What is the performance metric you'll use to evaluate the results of your test?

The incremental lift should be at least 18% to justify the increased marketing budget necessary for the addition of gourmet sandwiches and limited wine offerings to Round Roaster's menu.

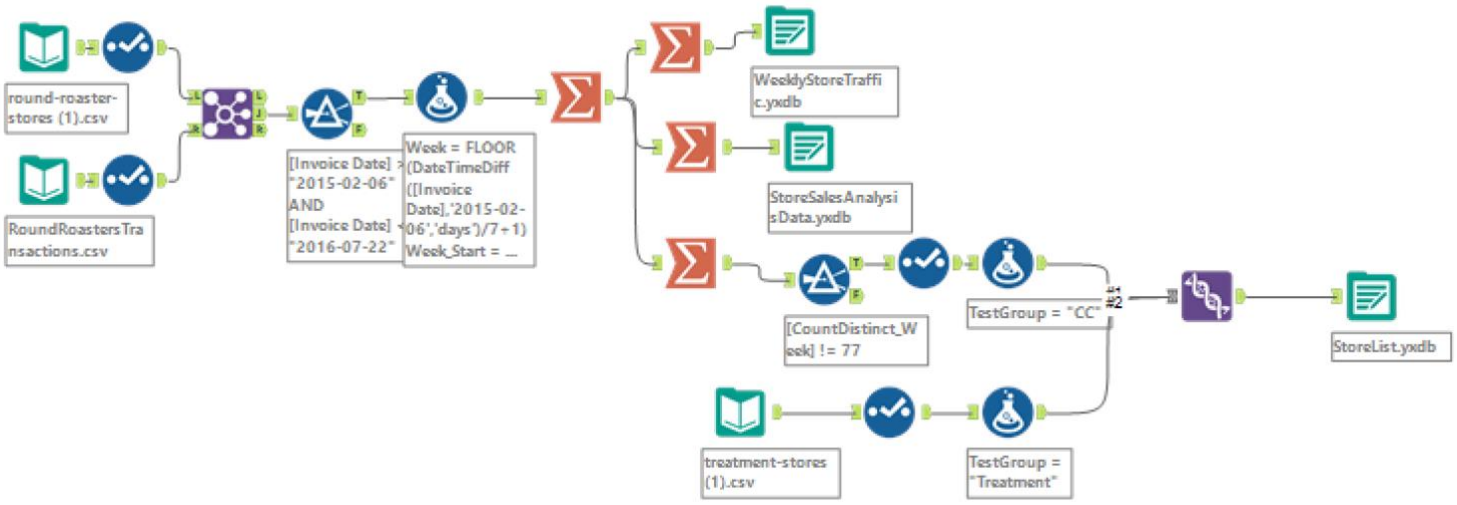
What is the test period?

The test period is 12 weeks from April 29th 2016 to July 21st 2016.

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

The data should be aggregated to the weekly level.

Cleaning Up the Data



Matching Treatment and Control Units

What control variables should be considered?

AvgMonthSales and Sq_Foot. Other exogenous variables such as phone number, time zone, and address fields contained in the *RoundRoastersStore* file should be ignored as they are irrelevant to our model.

What is the correlation between each of your potential control variables and your performance metric?

AvgMonthSales is strongly correlated to the gross margin with a positive Pearson association measure of .79 while **Sq_Foot** is very weakly correlated to our performance metric with a Pearson association measure of -.02. Furthermore, both measures are statistically significant with p-values less than .05.

Focused Analysis on Field Sum_Gross.Margin

	Association Measure	p-value	
AvgMonthSales	0.788417	0.000000	***
Sq_Ft	-0.020479	0.039407	*

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

AvgMonthSales will be used along with trend and seasonality to match treatment and control stores.

Shown below are the treatment and control stores pairs:

Treatment Store	Control Store 1	Control Store 2
1644	7162	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

A/B Analysis and Writeup

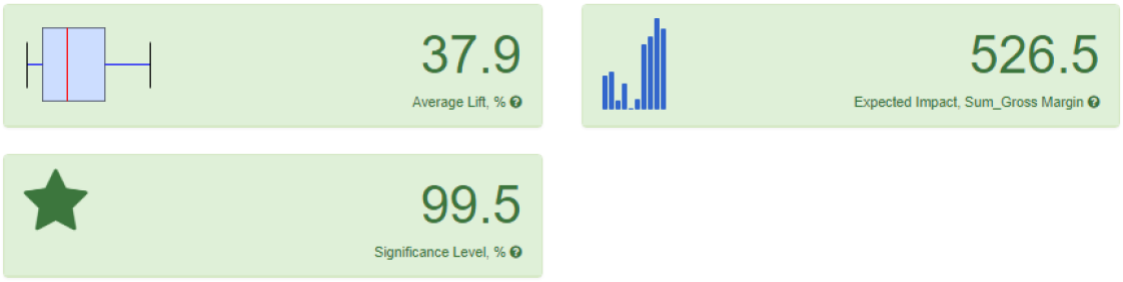
What is your recommendation?

Based on the A/B analysis, Round Roasters should roll out the updated menu to all stores because the predicted impact to profitability justifies the increased marketing budget as the lift from the new menu offerings exceeds the 18% threshold.

For the central region, the lift was 43.5% with a 99.6% significance level.
For the west region, the lift was 37.9% with a 99.5% significance level.
The overall lift for the new menu was 40.7% with a 100% significance level.

Central Region:

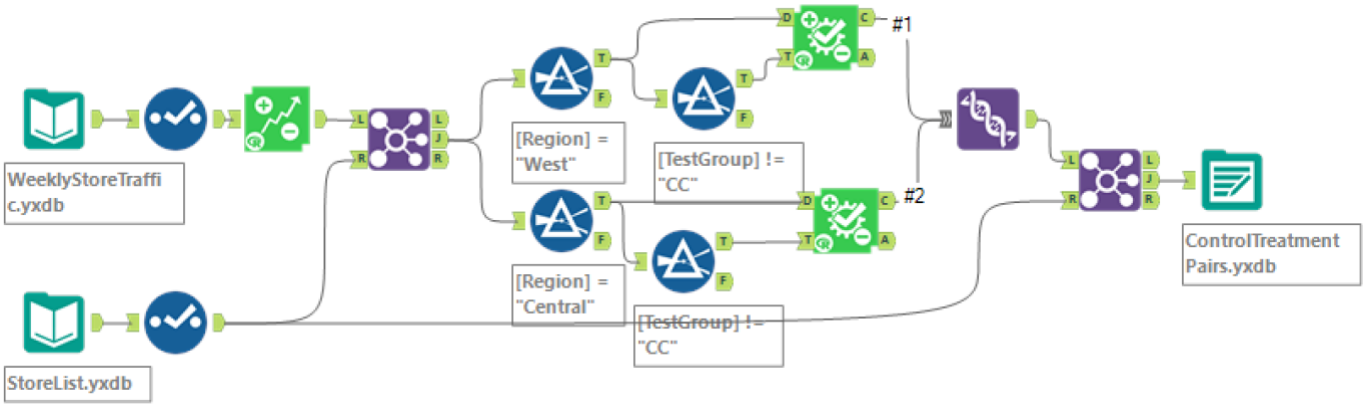
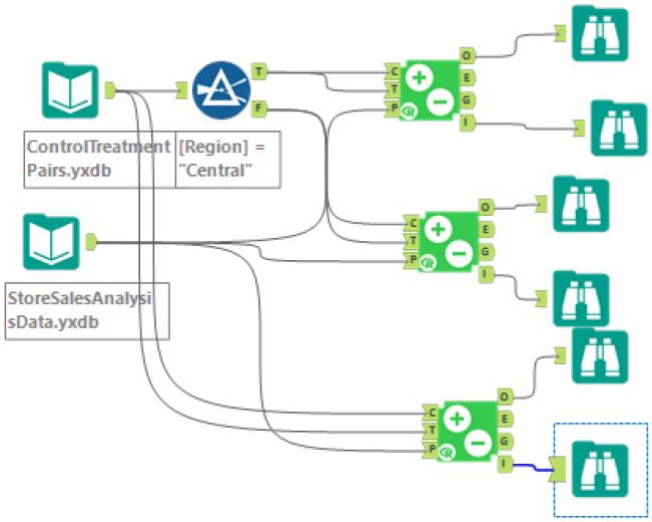
West Region:



Overall:

Alteryx Workflows:

A/B Trends/Controls:



A/B Analysis: