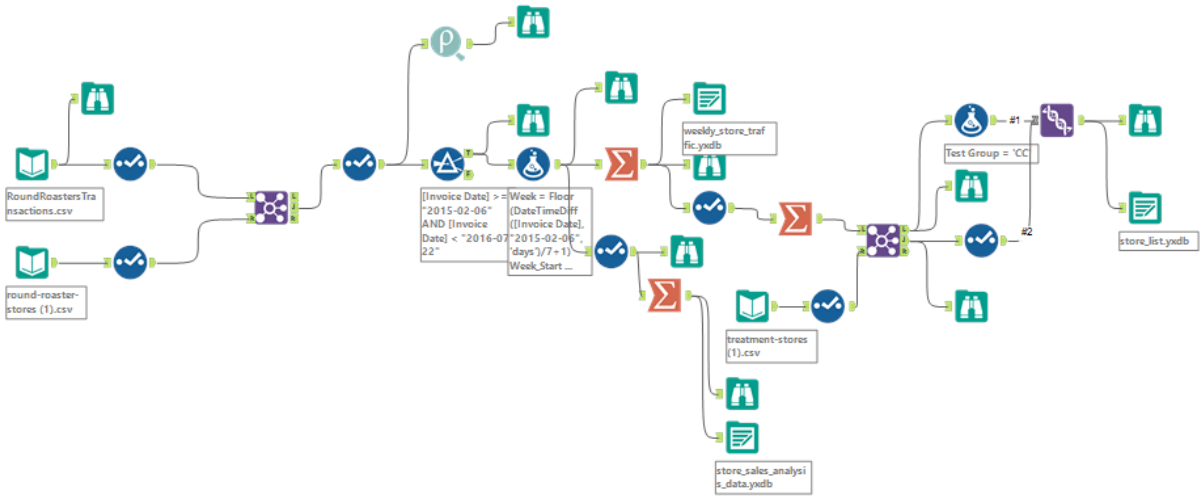
Project: Analyzing a Market Test

Alteryx Workflow



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?
   Result will be evaluated on gross margin
2. What is the test period?
   Test period will be 2016-April-29 to 2016-July-21
3. At what level (day, week, month, etc.) should the data be aggregated?
   We will aggregate by week for our analysis

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 month sales, seasonality of sales, geographic region.

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

FieldName	Gross Margin	Sales	Sq_Ft	AvgMonthSales
Gross Margin	1	0.959188	-0.006913	0.008306
Sales	0.959188	1	-0.008894	0.00974
Sq_Ft	-0.006913	-0.008894	1	-0.09899
AvgMonthSales	0.008306	0.00974	-0.09899	1

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

   Trend, seasonality, average month sales

4. Please fill out the table below with your treatment and control stores pairs:

Treatment Store	Control Store 1	Control Store 2
1664	7162	8112
1675	1580	1807
1696	1964	2014
1700	2014	1630
1712	8162	7434
2288	9081	2568
2293	12219	9524
2301	3102	9238
2322	2409	3235
2341	12536	2383

Alteryx Output

Controls	Treatments	Distance	Test Group	Region	AvgMonthSales
7162	1664	0.478595	Barrington	Central	11000
8112	1664	1.034443	Barrington	Central	11000
1580	1675	0.45634	Northwest Hwy & Elmhurst Rd	Central	15000
1807	1675	0.560454	Northwest Hwy & Elmhurst Rd	Central	15000
1964	1696	0.312367	Higgins & Meacham	Central	10000
1863	1696	0.489137	Higgins & Meacham	Central	10000
2014	1700	0.810402	Roosevelt & Summit	Central	15000
1630	1700	0.91618	Roosevelt & Summit	Central	15000
8162	1712	0.671441	159th & LaGrange	Central	19000
7434	1712	0.793269	159th & LaGrange	Central	19000
9081	2288	0.277932	S. Parker Rd & E. Quincy Ave	West	14000
2568	2288	0.714134	S. Parker Rd & E. Quincy Ave	West	14000
12219	2293	0.348583	King Sooper Arvada # 55	West	11000
9524	2293	0.656038	King Sooper Arvada # 55	West	11000
3102	2301	0.381248	Hampden & Santa Fe, Sheridan	West	11000
9238	2301	0.434646	Hampden & Santa Fe, Sheridan	West	11000
2409	2322	0.171431	King Soopers - Denver #1	West	14000
3235	2322	0.45125	King Soopers - Denver #1	West	14000
12536	2341	0.39796	1352 College Ave - Boulder	West	11000
2383	2341	0.423792	1352 College Ave - Boulder	West	11000

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, the company should roll out the new menu because adding the updated menu would improve gross margin by $693.80 per store per week. The average lift is 41.9% which exceeds the management expectation of 18% profit growth.

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

   Central: 47.2%, 99.6% significance

Lift	Expected Impact	Significance Level
47.2%	886	99.6%

Summary Statistics for Sum_Gross Margin by Test Group

Statistic	Treatment	Control
Average	42.52	-2.34
Minimum	22.64	-17.34
Maximum	69.43	19.06
Standard Deviation	17.69	10.32

West: 36.6%, 99.7% significance

Lift	Expected Impact	Significance Level
36.6%	503	99.7%

Summary Statistics for Sum_Gross Margin by Test Group

Statistic	Treatment	Control
Average	41.13	4.36
Minimum	19.27	-13.82
Maximum	54.87	23.15
Standard Deviation	14.61	10.64

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

   The overall lift is 41.9%, 100% significance

Lift	Expected Impact	Significance Level
41.9%	694	100.0%

Summary Statistics for Sum_Gross Margin by Test Group

Statistic	Treatment	Control
Average	41.83	1.13
Minimum	19.27	-17.34
Maximum	69.43	23.15
Standard Deviation	15.81	10.91