

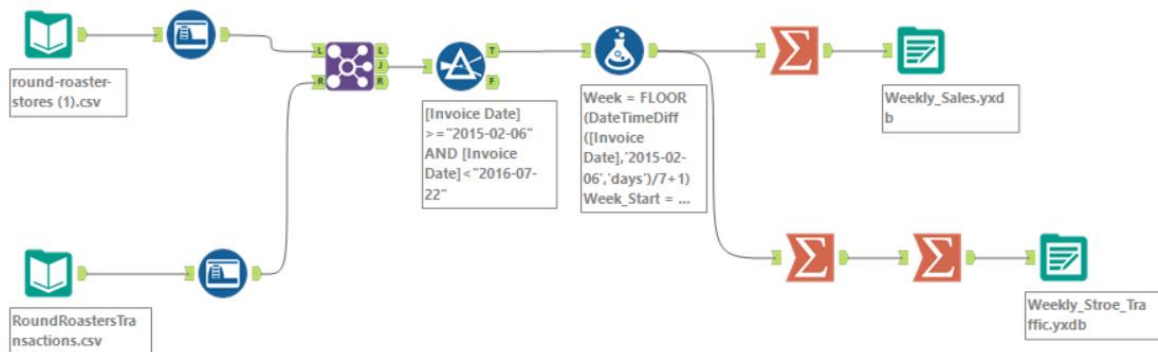
# Project: Analyzing a Market Test

## Step 1: Plan Your Analysis

1. What is the performance metric you'll use to evaluate the results of your test?  
[gross\\_margin](#), The predicted impact to profitability should be enough to justify the increased marketing budget: at least 18% increase in profit growth compared to the comparative period while compared to the control stores; otherwise known as incremental lift. In the data, profit is represented in the [gross\\_margin](#) variable.
2. What is the test period?  
The test period is 4/29/2016 – 7/21/2016 = 12 weeks.
3. At what level (day, week, month, etc.) should the data be aggregated?  
at the week level.

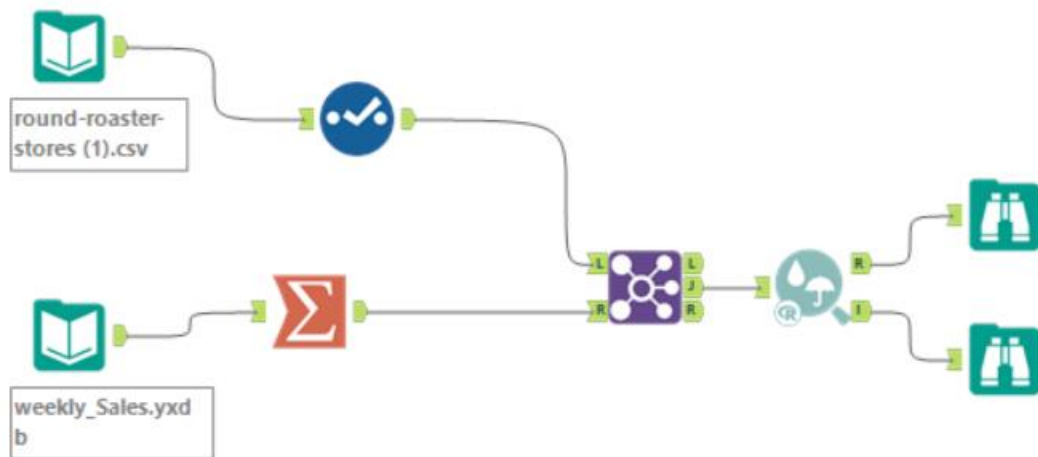
## Step 2: Clean Up Your Data

Workflow in alteryx:



## Step 3: Match Treatment and Control Units

1. What control variables should be considered? Note: Only consider variables in the RoundRoastersStore file.  
[AvgMonthSales](#) and [Sq\\_Ft](#).
2. What is the correlation between your each potential control variable and your performance metric?  
using [Pearson Correlation Analysis tool](#)



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

### Pearson Correlation Analysis

#### Full Correlation Matrix

	Sq_Ft	AvgMonthSales	Sum_Sum_Gross.Margin
Sq_Ft	1.000000	-0.046967	-0.020453
AvgMonthSales	-0.046967	1.000000	0.988207
Sum_Sum_Gross.Margin	-0.020453	0.988207	1.000000

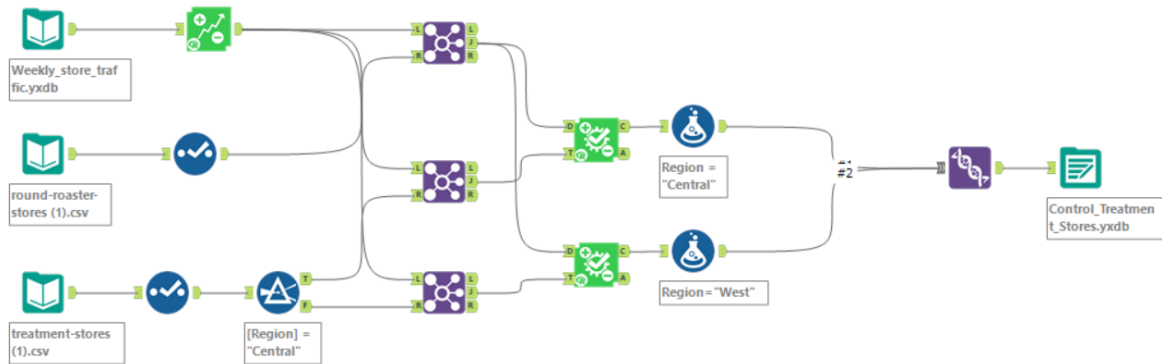
#### Matrix of Corresponding p-values

	Sq_Ft	AvgMonthSales	Sum_Sum_Gross.Margin
Sq_Ft		0.59138	0.81524
AvgMonthSales	0.59138		0.00000
Sum_Sum_Gross.Margin	0.81524	0.00000	

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

Treatment Store	Control Store 1	Control Store 2
1664	11868	12019
1675	3235	2409
1696	2383	7334
1700	8717	1508
1712	9017	7434
2288	7484	1857
2293	7811	7770
2301	1863	11268
2322	1807	7284
2241	8817	7584

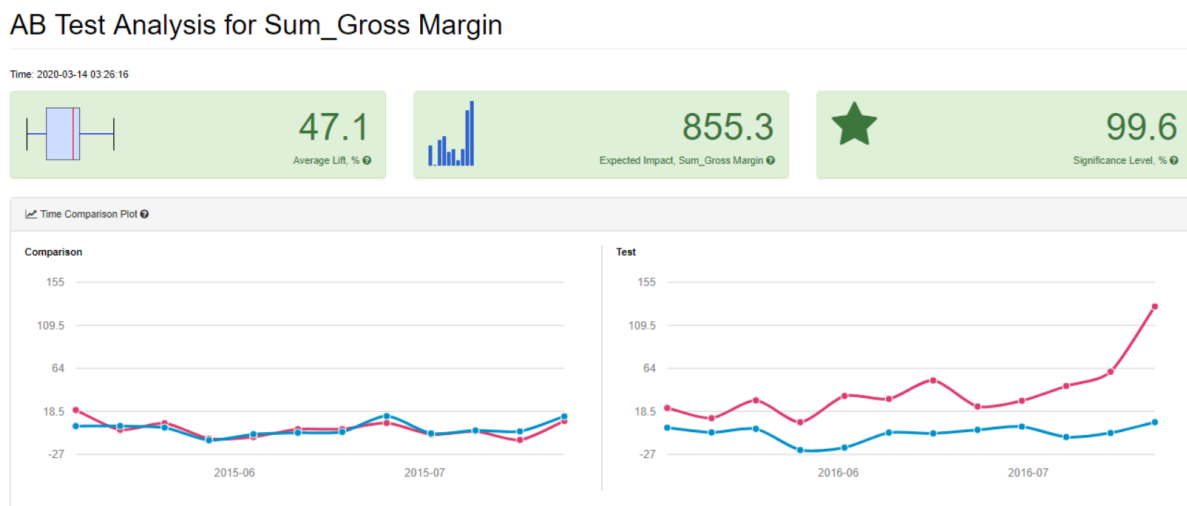
workflow for A/B Trends and A/B Control:

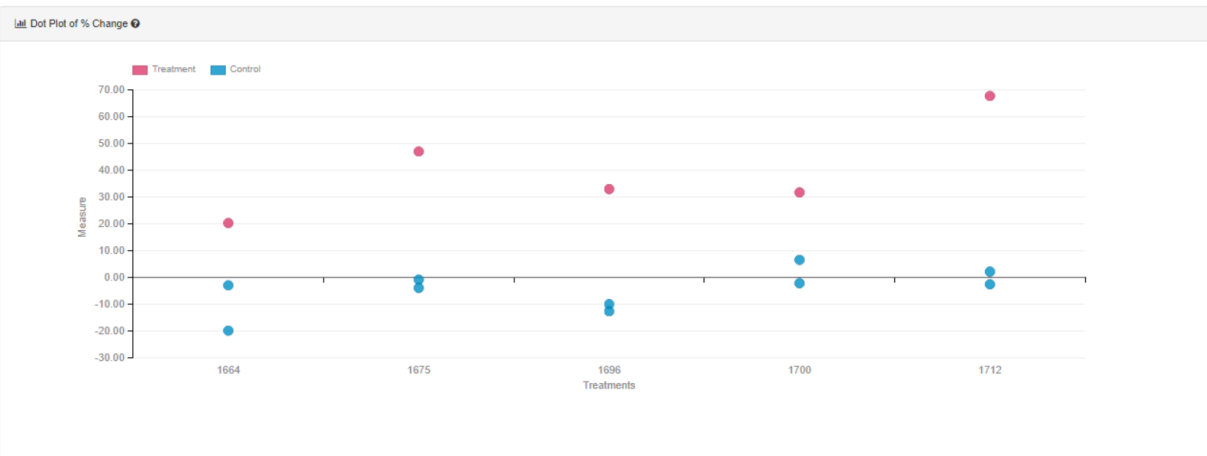


## Step 4: Analysis and Writeup

1. What is your recommendation - Should the company roll out the updated menu to all stores?  
The company can offer the updated list for all stores because they are all above 18%. Therefore, the company must submit the updated list.
2. What is the lift from the new menu for West and Central regions (include statistical significance)?
3. What is the lift from the new menu overall?

Answer q2+q3 in the following pictures:





## AB Test Analysis for Sum\_Gross Margin

Time: 2020-03-14 03:28:44



**33.3**  
Average Lift, %



**465.7**  
Expected Impact, Sum\_Gross Margin



**99.2**  
Significance Level, %

