

# Project: Analyzing a Market Test

## Plan Your Analysis

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

We need to have at least 18% increase in profit when comparing the test result to the comparative period. so, increasing profit will be our **performance metric**.

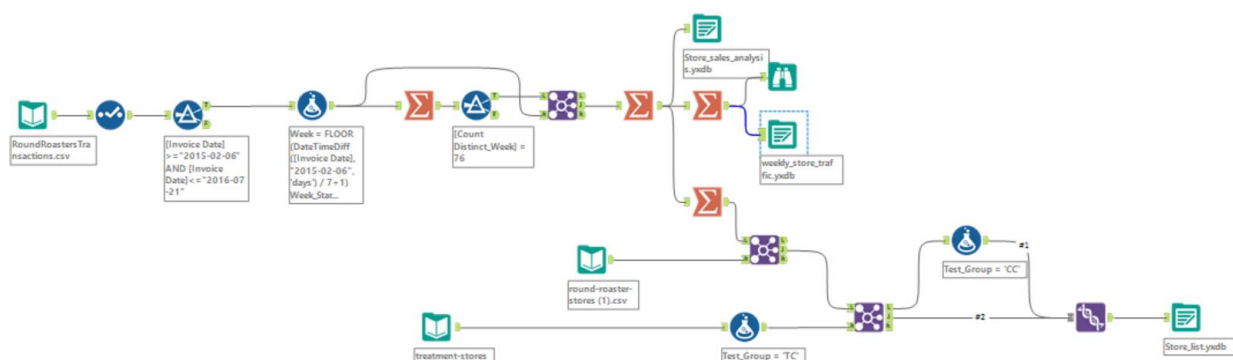
### 2. What is the test period?

The test period are 12 weeks from 2016-April-29 to 2016-July-21.

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

The data should be aggregated on a **weekly level**.

## Clean Up Your Data



## Match Treatment and Control Units

*Apart from trend and seasonality...*

1. What control variables should be considered? Note: Only consider variables in the RoundRoastersStore file.

The control variables from RoundRoastersStore file are **AvgMonthsSales** & **Sq\_Feet**.

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

From the below report we can deduce that **AvgMonthSales** has a correlation coefficient of **0.790357** with the **Sum\_Sum\_Gros,Margin** on other hand **Sq\_Ft** has the correlation coefficient of **-0.01932** with **Sum\_Sum\_Gros,Margin**.

Record	FieldName	Sum_Sum_Gross Margin	Sq_Ft	AvgMonthSales
1	Sum_Sum_Gross Margin	1	-0.01932	0.790357
2	Sq_Ft	-0.01932	1	-0.046967
3	AvgMonthSales	0.790357	-0.046967	1

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

The Bases on the correlation Analysis we can say that only **AvgMonthSales** 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	1964	7162
1675	7284	2214
1696	1863	7334
1700	7334	2014
1712	8162	7434
2288	2568	9081
2293	12686	9639
2301	12536	9238
2322	9388	3185
2341	2572	12586

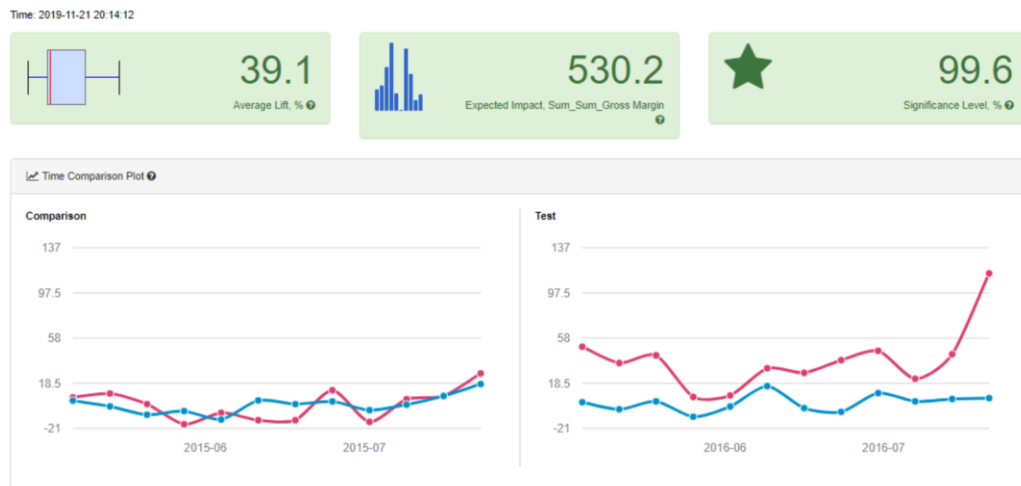
## Analysis and Writeup

1. What is your recommendation - Should the company roll out the updated menu to all stores?

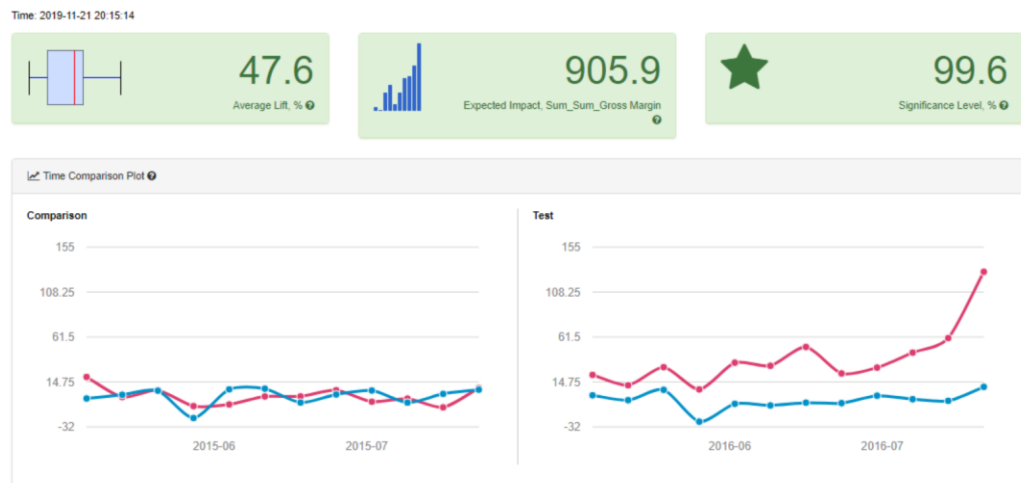
The company should update its menu at all the stores as the profit margin has increased by more than 18%.

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

The lift for the **West** region is 39.1% with statistical significance of 99.6%.



The lift for the **Central** region is 47.6% with statistical significance of 99.6%.



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

The lift for the **Central** region is 47.6% with statistical of 99.6%.

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