

Project: Analyzing a Market Test

Plan Your Analysis

1. What is the performance metric you'll use to evaluate the results of your test?
The Performance metric used to evaluate the result is Gross Margin.
2. What is the test period?
12 weeks (2016-April-29 to 2016-July-21) is the test period for this project.
3. At what level (day, week, month, etc.) should the data be aggregated?
The data are aggregated on weekly based.

Match Treatment and Control Units

1. What control variables should be considered? Note: Only consider variables in the RoundRoastersStore file.
Numeric variables should be considered for choosing control variables. Sq.ft, Average Monthly sales from RoundRoasterStore file.
2. What is the correlation between your each potential control variable and your performance metric?

Pearson Correlation Analysis

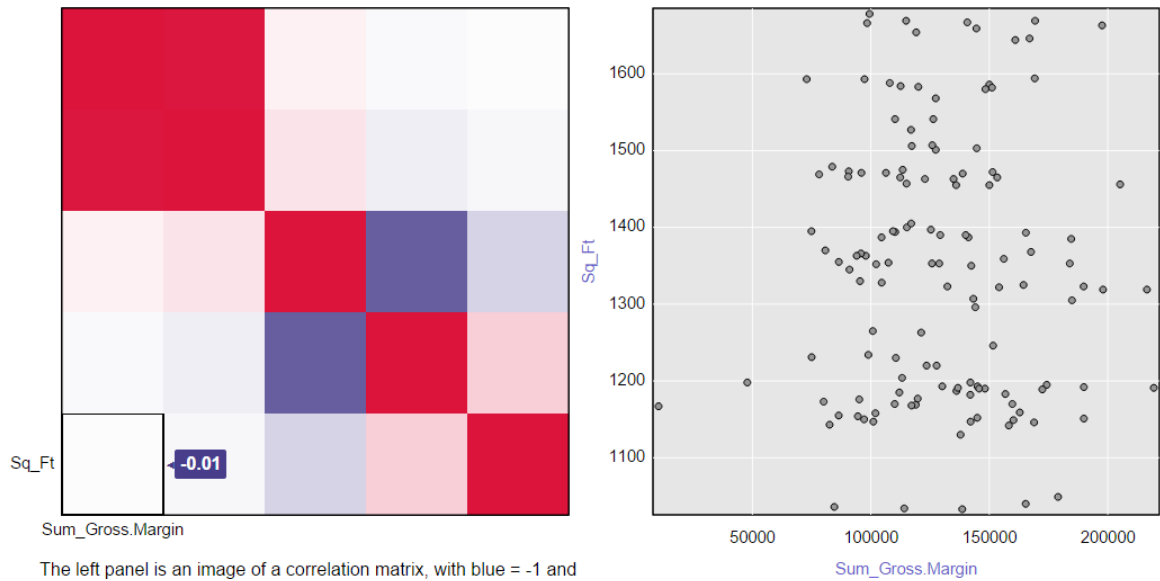
Full Correlation Matrix

	Trend	Seasonality	Sq_Ft	AvgMonthSales	Sum_Gross.Margin
Trend	1.000000	-0.831497	0.204900	-0.088061	-0.033213
Seasonality	-0.831497	1.000000	-0.227635	0.115323	0.059509
Sq_Ft	0.204900	-0.227635	1.000000	-0.041997	-0.013202
AvgMonthSales	-0.088061	0.115323	-0.041997	1.000000	0.986509
Sum_Gross.Margin	-0.033213	0.059509	-0.013202	0.986509	1.000000

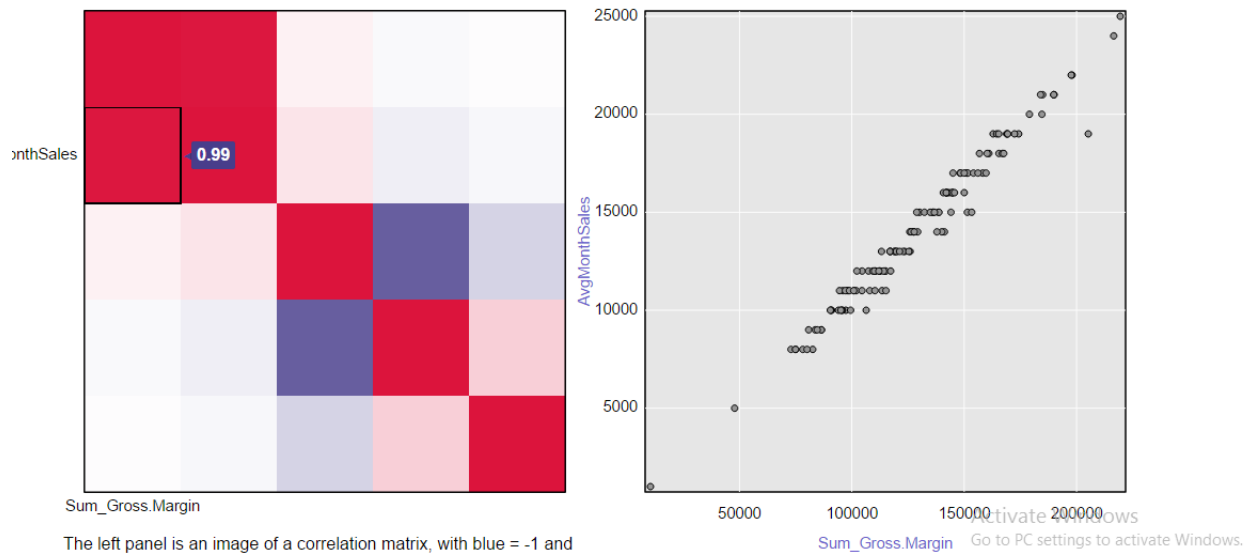
Matrix of Corresponding p-values

	Trend	Seasonality	Sq_Ft	AvgMonthSales	Sum_Gross.Margin
Trend		0.000000	0.0184332	0.3153458	0.7053799
Seasonality	0.000000		0.0086646	0.1879214	0.4978989
Sq_Ft	0.0184332	0.0086646		0.6325574	0.8805759
AvgMonthSales	0.3153458	0.1879214	0.6325574		0.0000000
Sum_Gross.Margin	0.7053799	0.4978989	0.8805759	0.0000000	

3. What control variables will you use to match treatment and control stores?
AverageMonthSales, Sq_Ft are the control variables used to match treatment and control stores.



From the above image we can see there is no relationship between Sum_Gross.Margin and Sq_ft.



When we see above image there is relationship between AvgMonthSales and Sum_Gross.Margin. So for AB Analysis including Trend, seasonality, Gross.Margin and AvgMonthSales are considered.

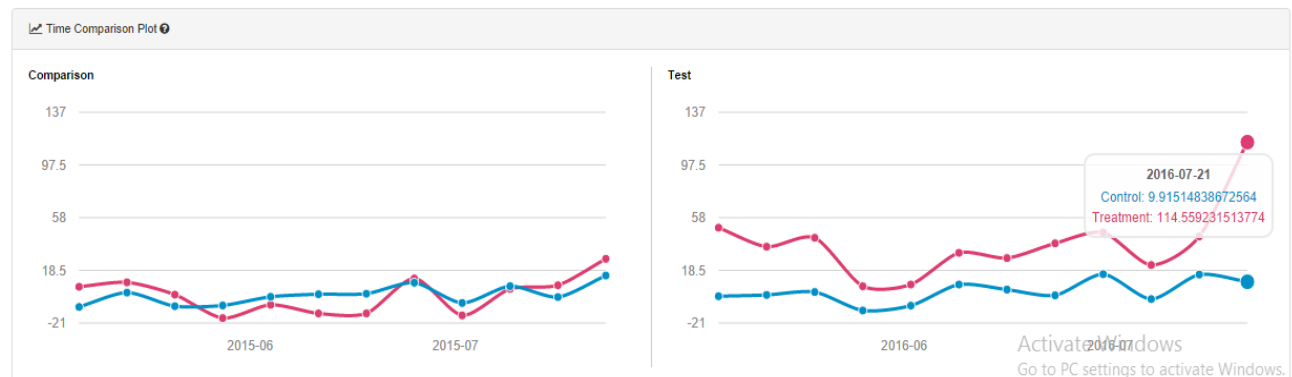
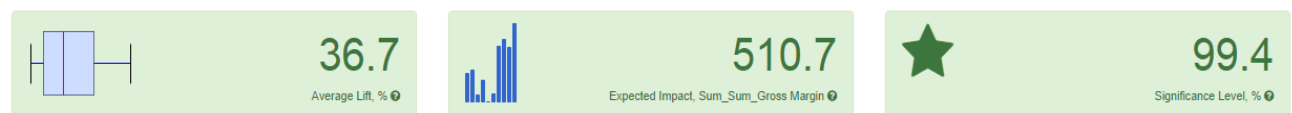
4. Please fill out the table below with your treatment and control stores pairs:

Treatment Store	Control Store 1	Control Store 2
1664	7162	8112
1675	1580	1807
1696	1964	1863
1700	2014	1630
1712	8162	7434
2288	9081	2568
2293	12219	9524
2301	3102	9238
2322	2409	3235
2341	12536	12019

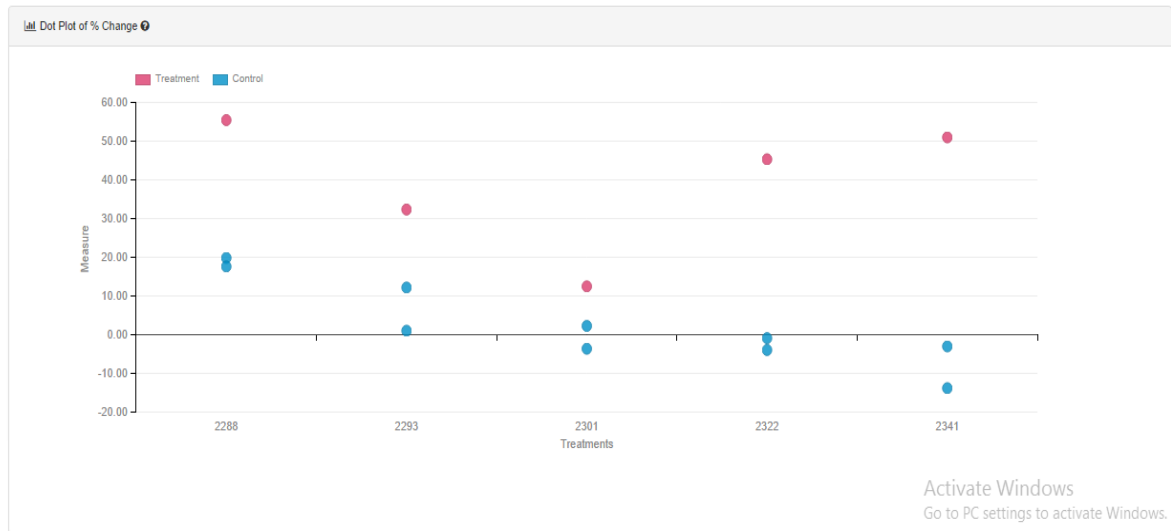
Report Analysis for treatments stores in West:

AB Test Analysis for Sum_Sum_Gross Margin

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Activated Windows
Go to PC settings to activate Windows.

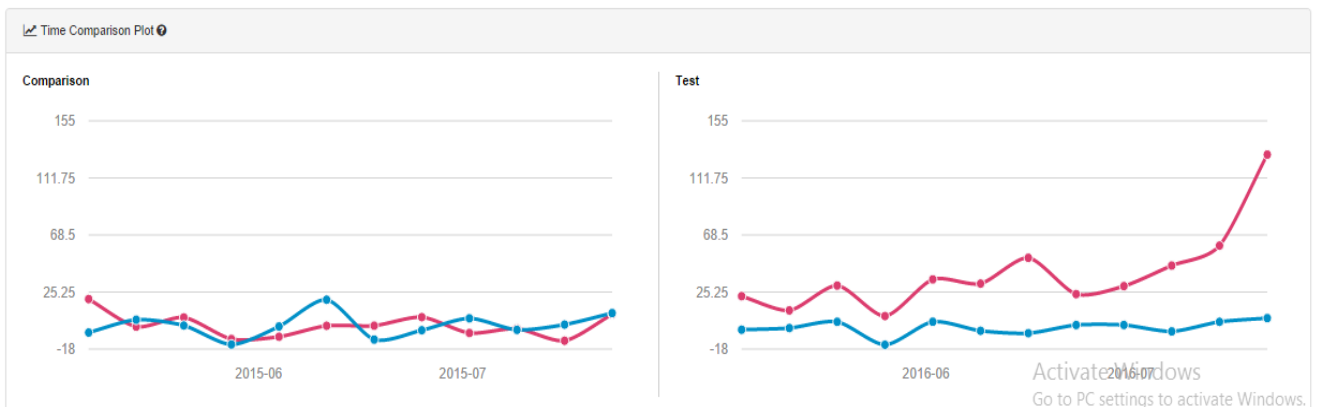
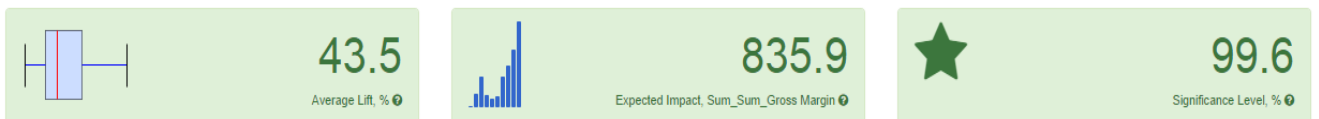


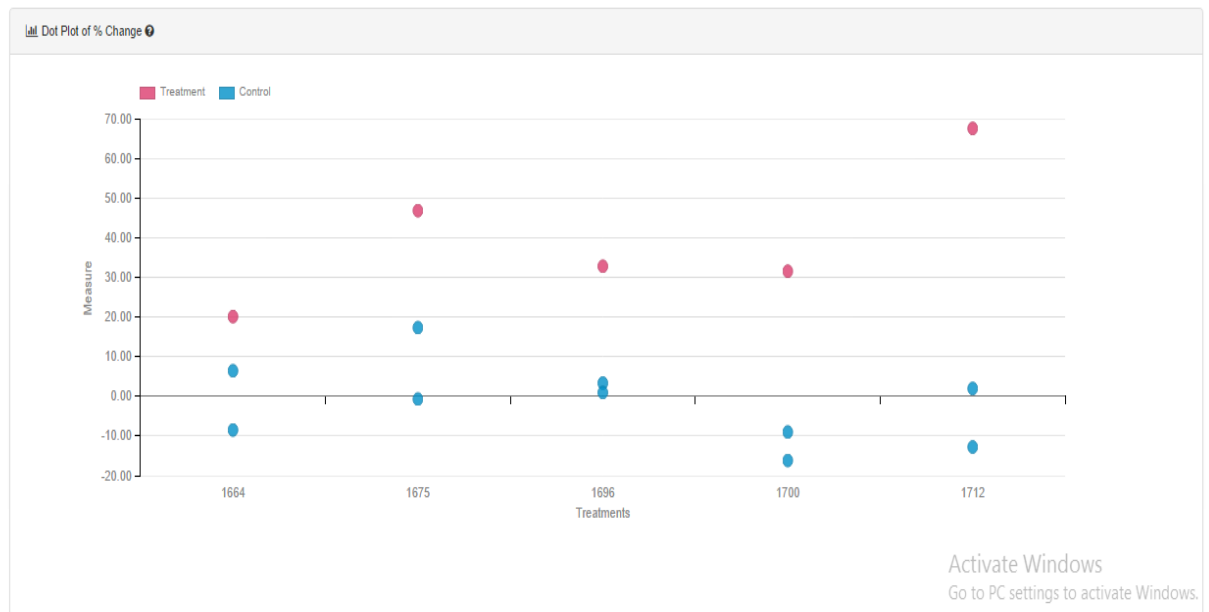
When we look at Performance of Treatment Stores in West Region Out performed than Control Stores.

Report Analysis for treatments stores in Central:

AB Test Analysis for Sum_Sum_Gross Margin

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When we look at Performance of Treatment Stores in Central Region also out performed than Control Stores.

So according to the Company if there is Incremental lift is above 18% will considered as a Profit growth.

Recommendation:

From the above analysis and Percentage Lift, Company can apply menu change to all stores.