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 gross margin.

2. **What is the test period?**

Item	Period
Historical Analysis	52 weeks
Trend Analysis	12 weeks
Testing	12 weeks
Total	76 weeks

Data from 2015-02-06 to 2016-07-22 is required.

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

   Week.

The variables used to match control units to treatment units:
- Trend
- Seasonality
- Square Feet
- Average Monthly Sales per store

Match Treatment and Control Units

Treatment Store	Control Store 1	Control Store 2
1664	2341	12019
1675	3235	1675
1696	2301	7334
1700	8717	1508
1712	7434	9017
2288	1807	8817
2293	7770	7811
2301	1863	1696
2322	7284	7584
2341	2383	3102

Analysis and Writeup

Lift Analysis for Control vs Treatment for the Central Region.

Lift Analysis for Sum_Gross Margin

Lift	Expected Impact	Significance Level
36.2%	694	99.2%

4 Summary Statistics for Sum_Gross Margin by Test Group

Statistic	Treatment	Control
Average	39.74	5.13
Minimum	20.09	-12.84
Maximum	67.52	50.84
Standard Deviation	17.15	17.47

Lift Analysis for Control vs Treatment for the West Region.

Lift Analysis for Sum_Gross Margin

Lift	Expected Impact	Significance Level
31.1%	437	98.9%

4 Summary Statistics for Sum_Gross Margin by Test Group

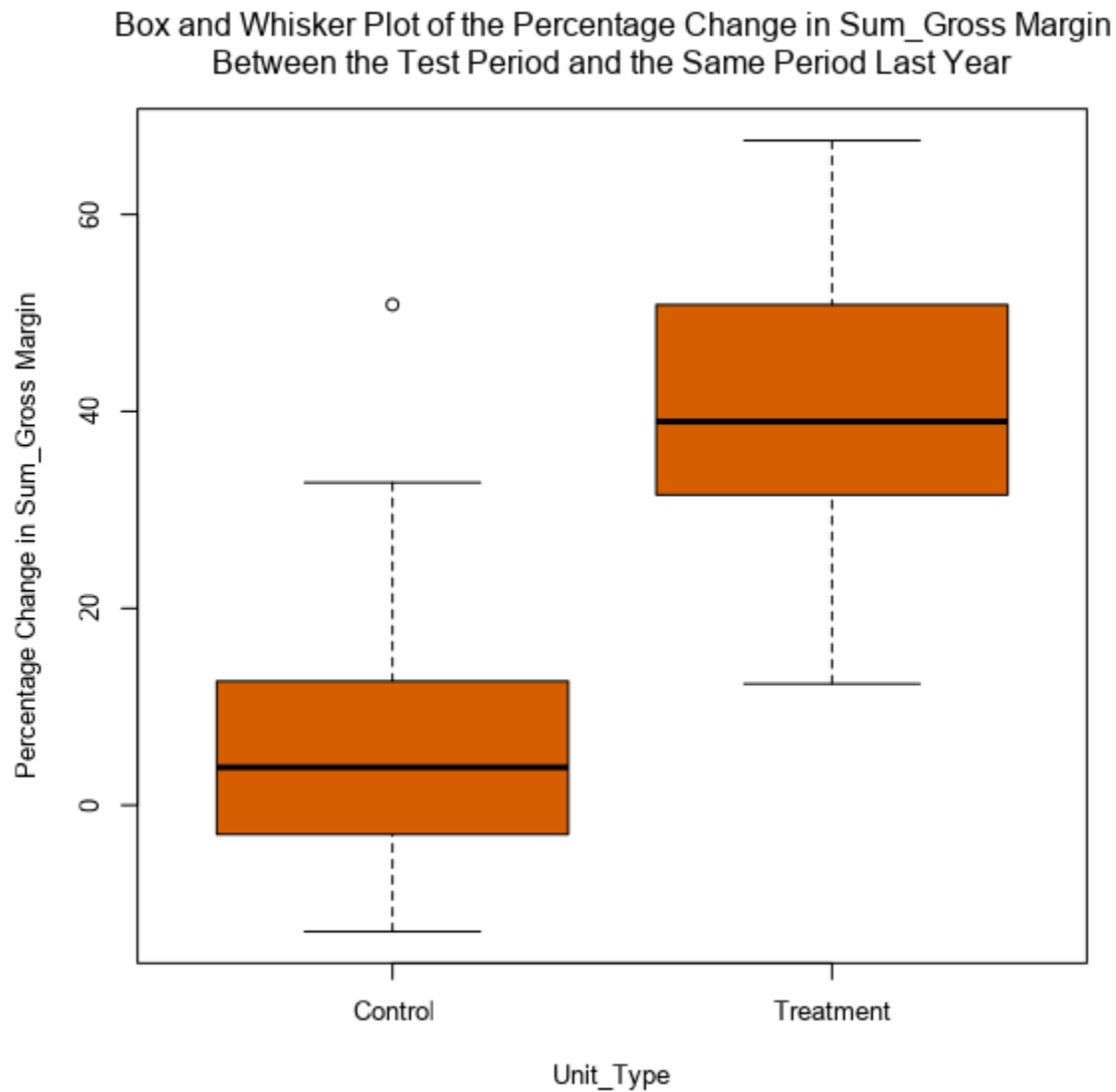| Statistic	Treatment	Control
Average	39.17	7.76
Minimum	12.34	-10.17
Maximum	55.30	32.77
Standard Deviation	16.34	11.94

Lift Analysis for Control vs Treatment for the Combined Region:

Lift Analysis for Sum_Gross Margin

Lift	Expected Impact	Significance Level
33.6%	565	100.0%

4 Summary Statistics for Sum_Gross Margin by Test Group

Statistic	Treatment	Control
Average	39.45	6.44
Minimum	12.34	-12.84
Maximum	67.52	50.84
Standard Deviation	16.30	14.63

Box and Whisker Plot of the Percentage Change in Sum_Gross Margin Between the Test Period and the Same Period Last Year

In conclusion, I would recommend Round Roasters implement the new menu to all stores due to a lift of 33.6% at a significance of 100%.

Lift from the new menu for the West & Central Region.

Region	Lift	Significance Level
West	31.1%	98.9%
Central	36.2%	99.2%

Lift from the new menu for the Combined Region (West & Central).

Region	Lift	Significance Level
Combined (West & Central)	33.6%	100%