Project: Analyzing a Market Test

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?**
   I have used Sum Gross Margin as the performance metric for evaluating whether or not to introduce gourmet sandwiches and wine at the stores.
2. **What is the test period?**
   The test period is 29-04-2016 to 21-07-2016.
3. **At what level (day, week, month, etc.) should the data be aggregated?**
   The data should be aggregated to weekly level.

Step 2: Clean Up Your Data

RoundRoastersTransactions and RoundRoastersStores data is combined. Data has been filtered for the dates ranging from 6-02-2015 to 21-06-2016. Variables like Week, Week_Start and Week_End are established and gross margin and sales data is aggregated to weekly level.

Step 3: Match Treatment and Control Units

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

   AvgMonthSales, Sq_feet , Trend and Seasonality must be used as control variables.

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

   The sum gross margin is highly correlated with with avgmonthsales the coefficiecnt of correlation is 0.79. Sq_feet is not highly correlated with sum gross margin hence it must be ignored as a control variable.

   The results of the correlation analysis are as follows -

Layout

Pearson Correlation Analysis

Full Correlation Matrix

	Sum_Sum_Gross.Margin	Right_Sq_Ft	Right_AvgMonthSales
Sum_Sum_Gross.Margin	1.000000	-0.019345	0.790358
Right_Sq_Ft	-0.019345	1.000000	-0.046967
Right_AvgMonthSales	0.790358	-0.046967	1.000000

Matrix of Corresponding p-values

	Sum_Sum_Gross.Margin	Right_Sq_Ft	Right_AvgMonthSales
Sum_Sum_Gross.Margin		5.1796e-02	0.0000e+00
Right_Sq_Ft	5.1796e-02		2.3119e-06
Right_AvgMonthSales	0.0000e+00	2.3119e-06	

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

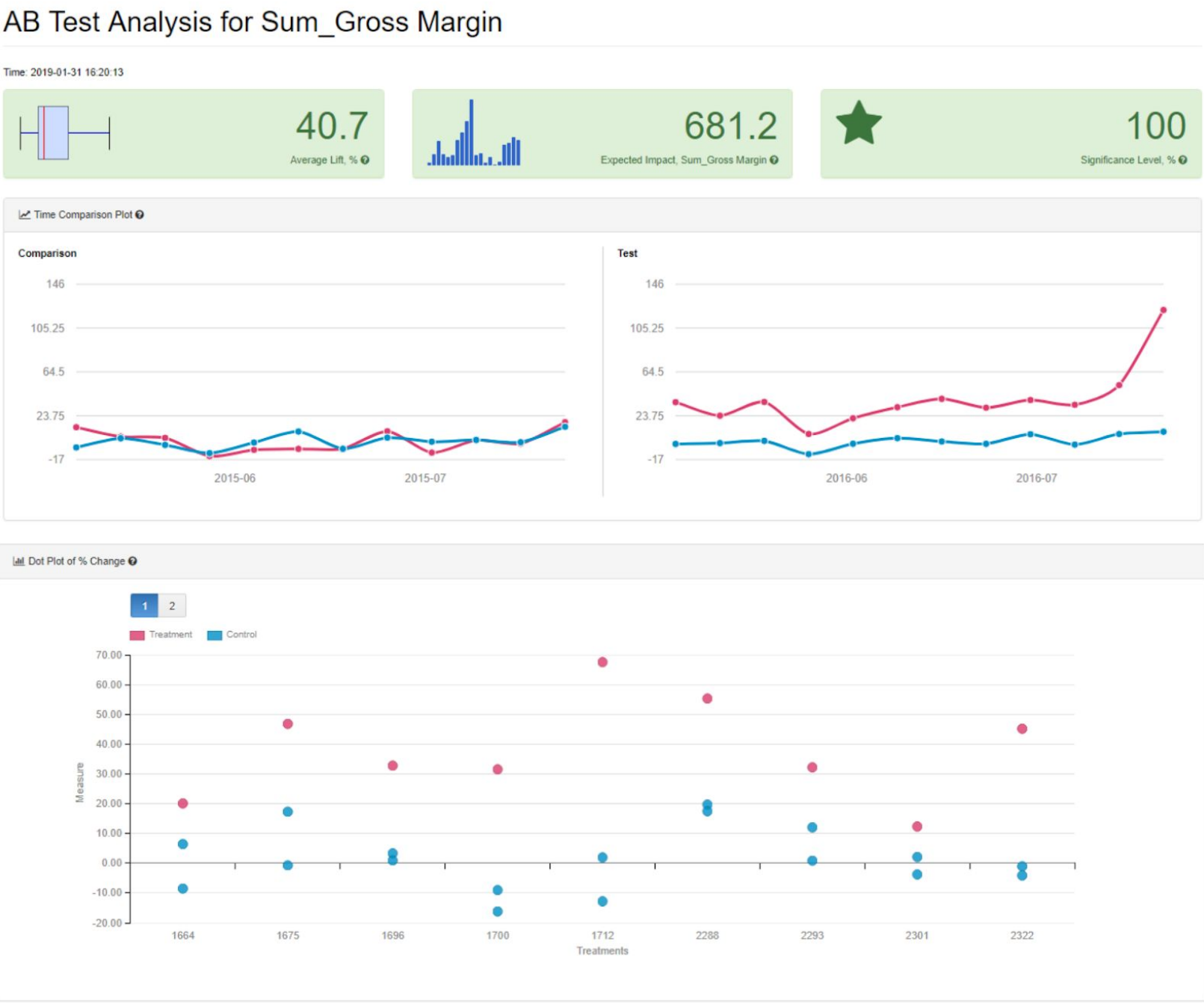
   AvgMonthSales, Trend and Seasonality are used to match treatment and control variables.

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	2568	9081
2293	12219	9524
2301	3102	9238
2322	2409	3235
2341	12536	2383

Step 4: Analysis and Writeup

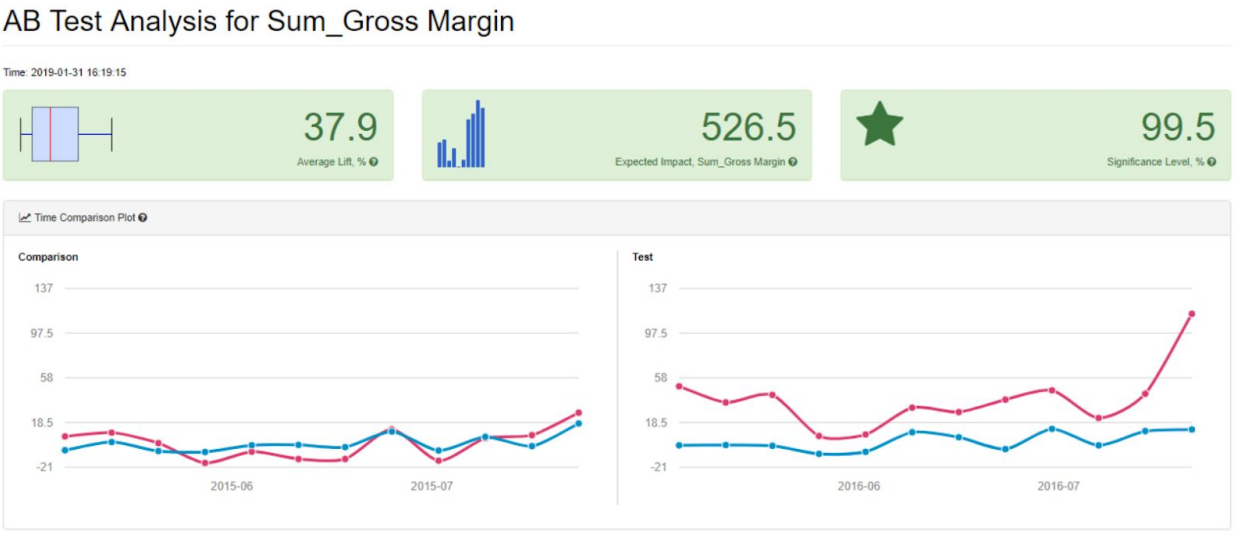
1. **What is your recommendation - Should the company roll out the updated menu to all stores**



The company should roll out the new products at all the stores as the lift rate is 40% with a 100% level of significance.

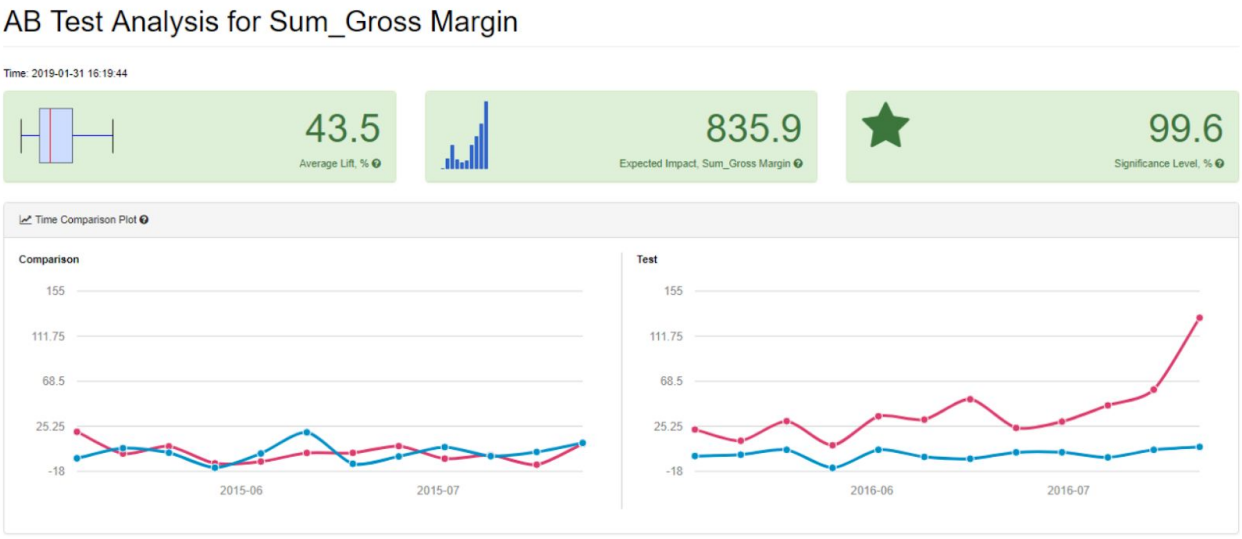
2. **What is the lift from the new menu for West and Central regions (include statistical significance)?**

WEST REGION -



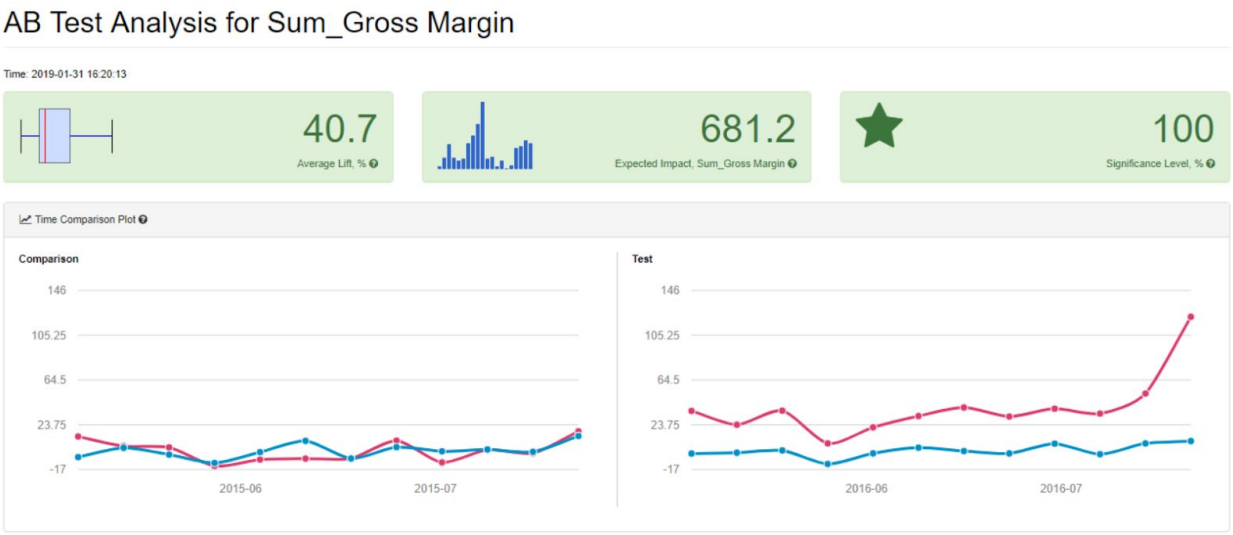
The lift from introducing new products in the west region stores is 37.9% with a significance level of 99.5.

CENTRAL REGION -



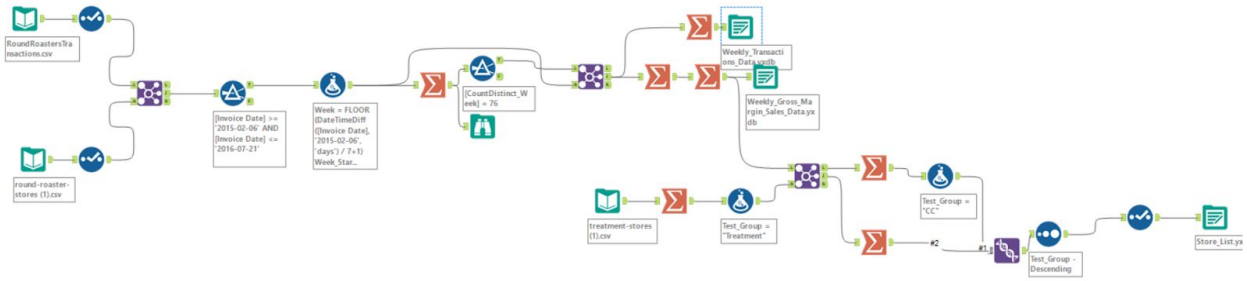
The lift from introducing new products in the central region stores is 43.5% ad the level of significance is 99.6.

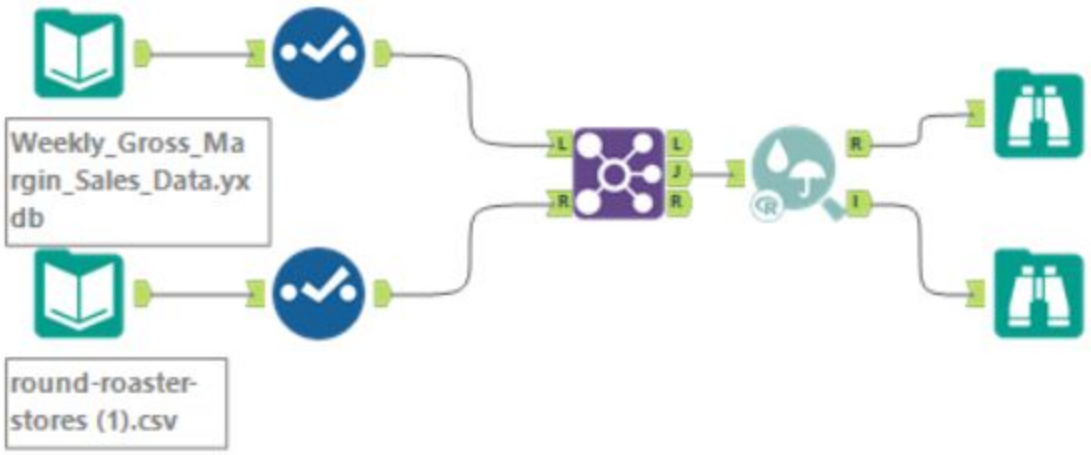
3. **What is the lift from the new menu overall?**

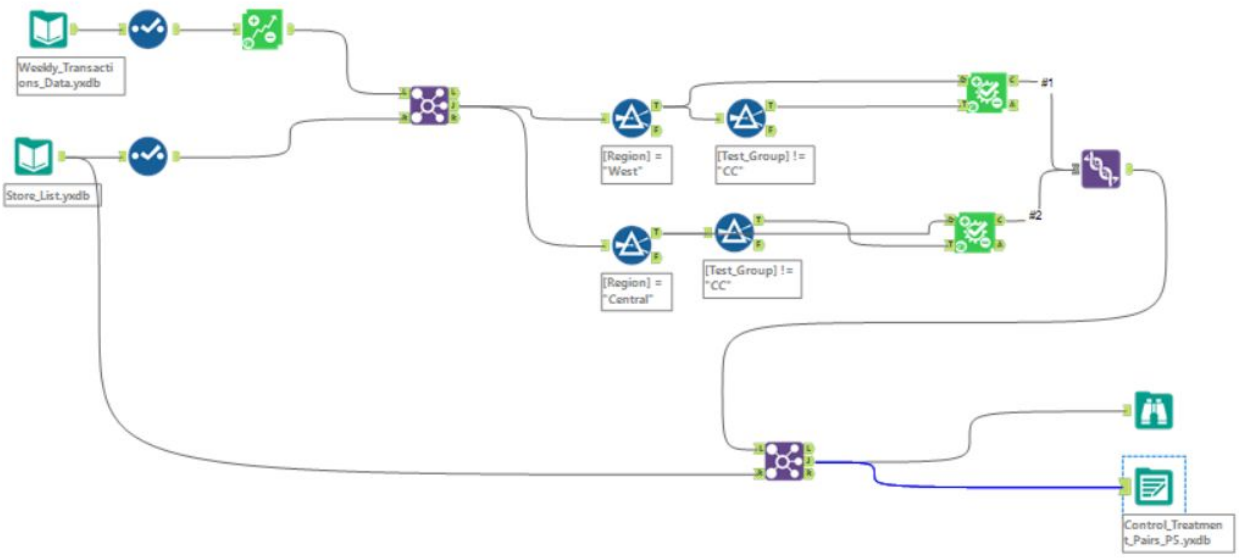


Lift from the new menu overall is 40% with a 100 level of significance

Alteryx Workflows -






Weekly_Transacti
ons_Data.yxdb
Store_List.yxdb
[Region] =
"West"
[Test_Group] !=
"CC"
[Region] =
"Central"
[Test_Group] !=
"CC"
#1
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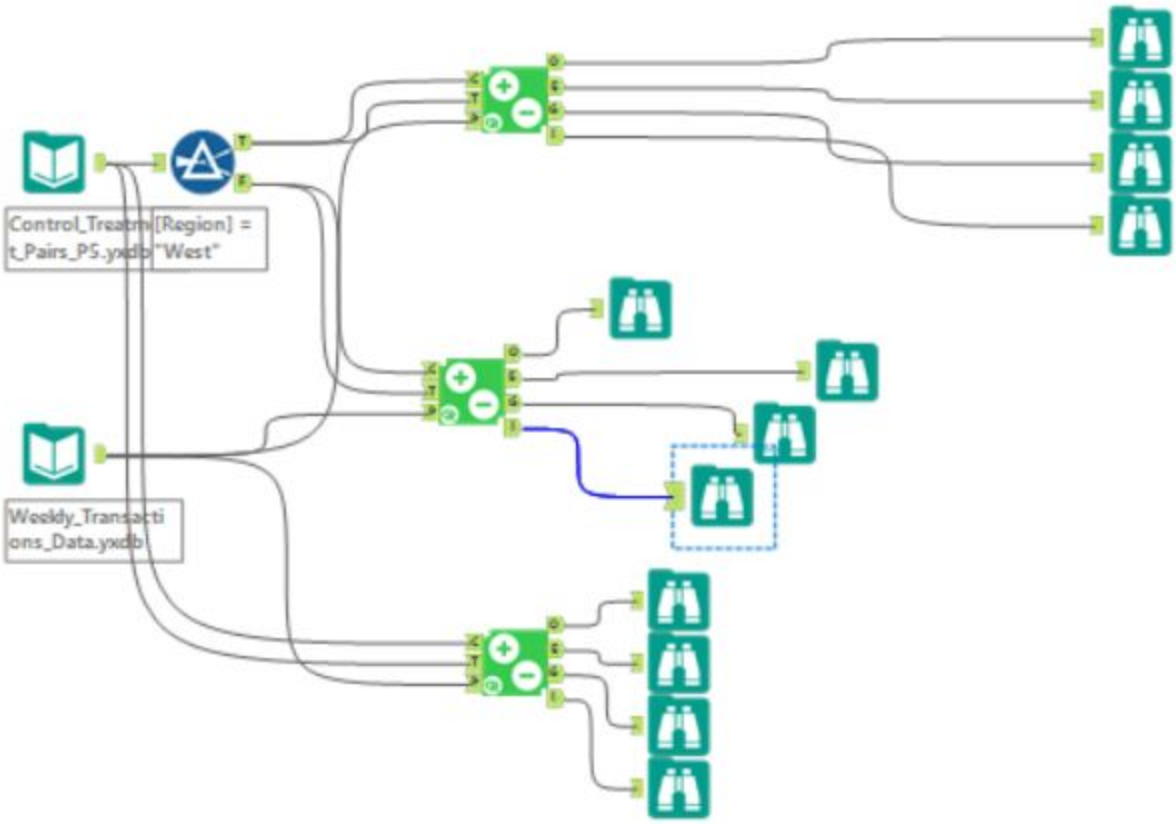
Control_Treatmen
t_Pairs_PS.yxdb


Control_Treatm
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