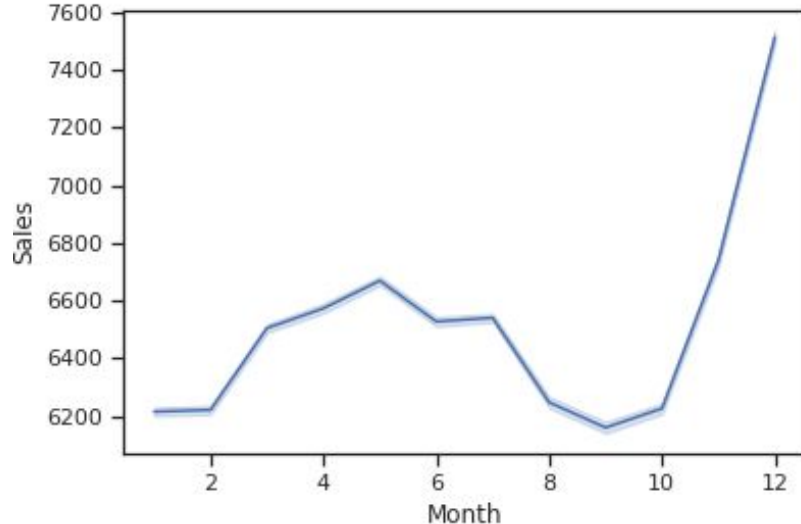
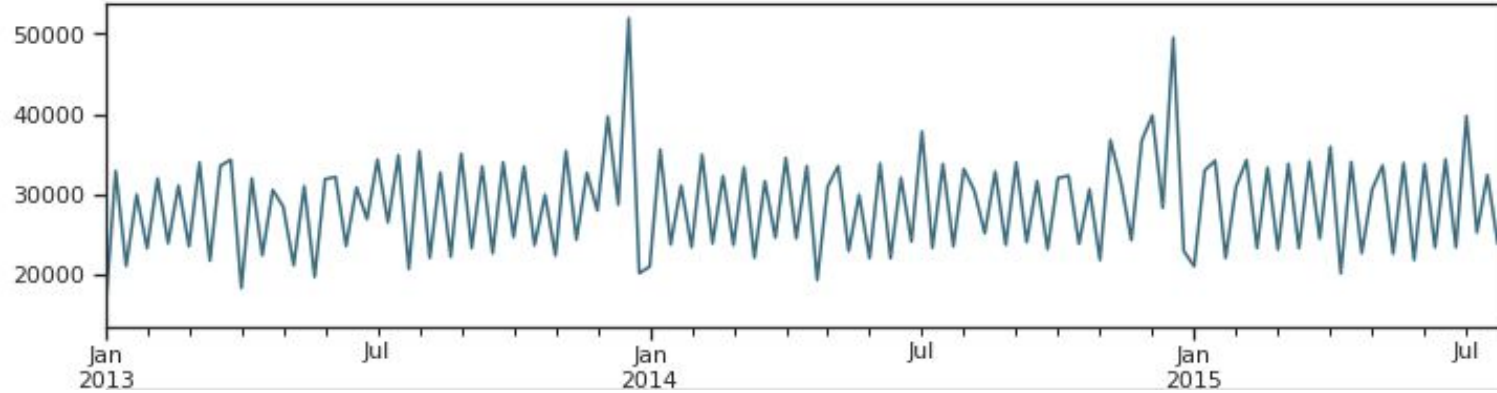


# Overview

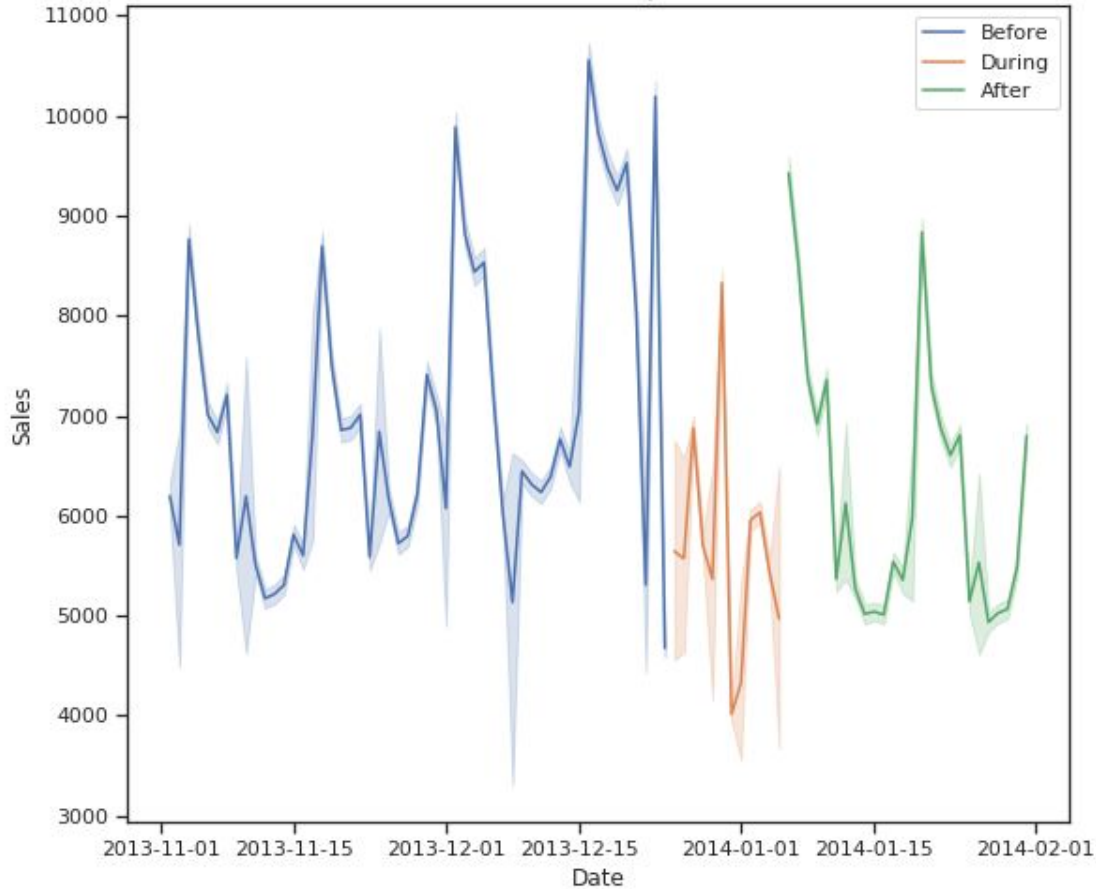
There are 4 different store models a,b,c and d. And has assortment level of basic, extra and extended. Our objective is to analyze sales of stores in respect to season, holydays, promotion, customers, competitors, weekends and assortment.

# Seasonal



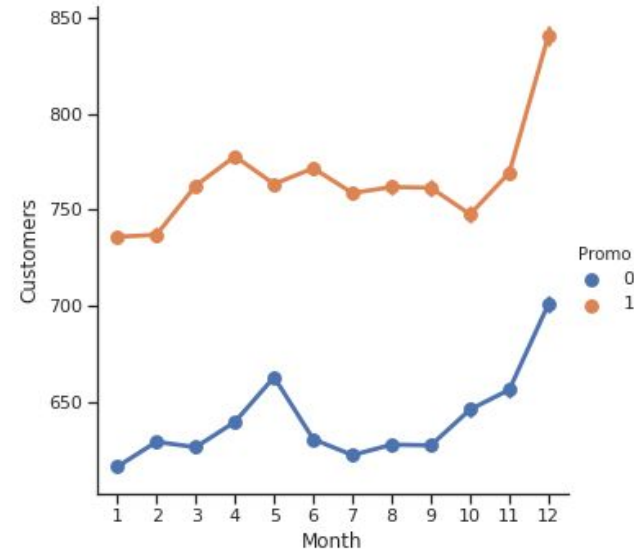
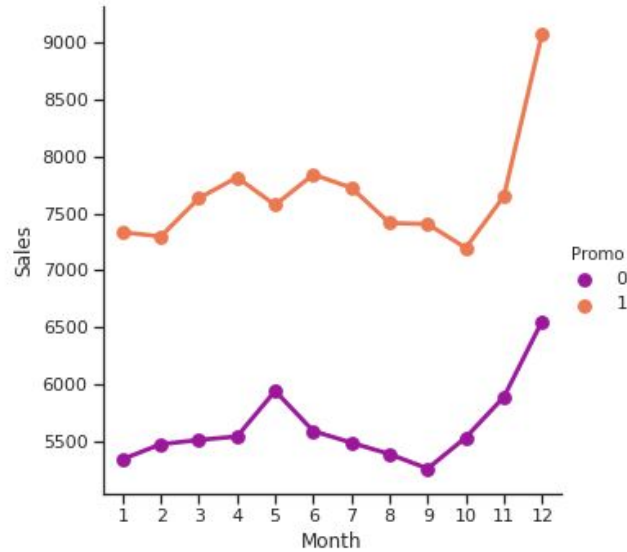
- The first plot is sale of a drag store over 3 years period. It graph is very noisy and has most sales during the last month of the year.
- The graph on the left is a summary of all the sales over 3 years period. It has the highest sale in December and the lowers sale in September .

X-mas sale comparison



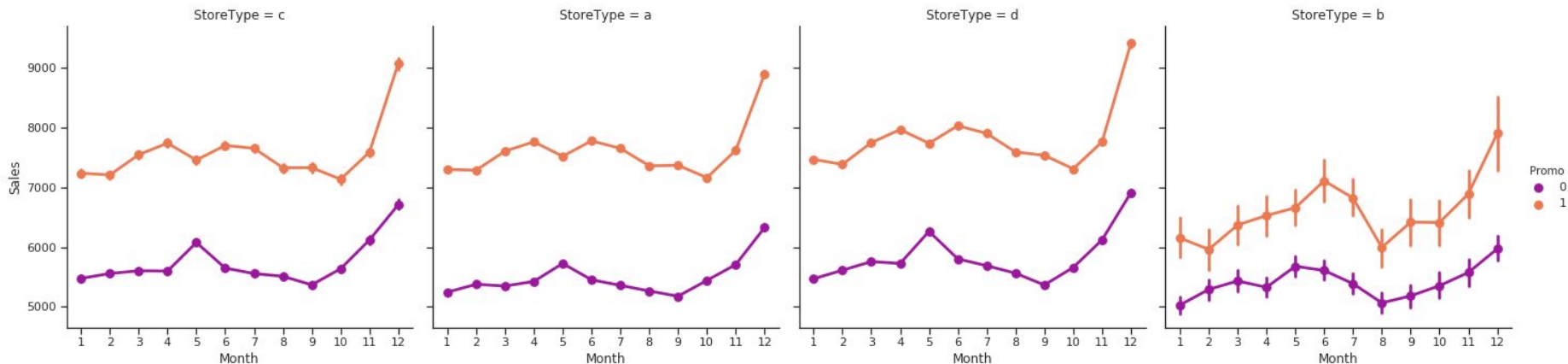
On the right sales before, after and during christmas is illustrated. The sale cumulatively increase until christmas then stayed low for about during christmas for almost two weeks and raised again continue the usual sales rate. The up and downs in the graph is due to weekend off works.

# Promotion



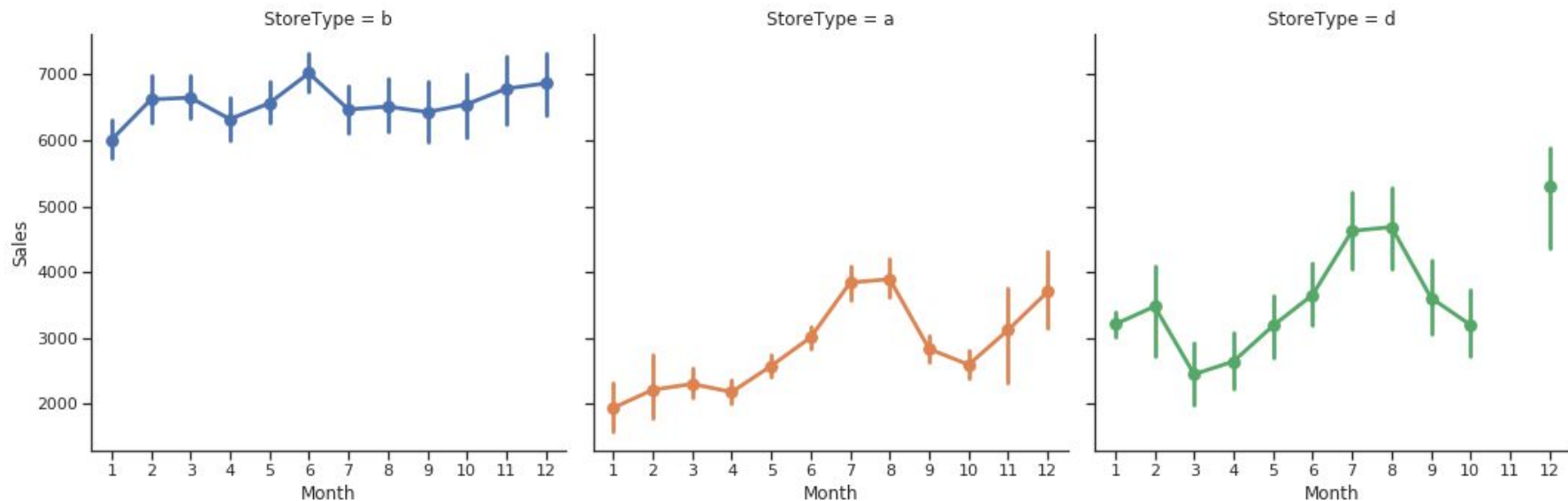
The first graph shows how promotion makes change in sales. Sales is significantly increased when a store has a promotion. Likewise on the second graph customer numbers are increase. The two graphs has a very similar plotting. We can take sales and customers as a highly correlated variables.

# Promotion by type



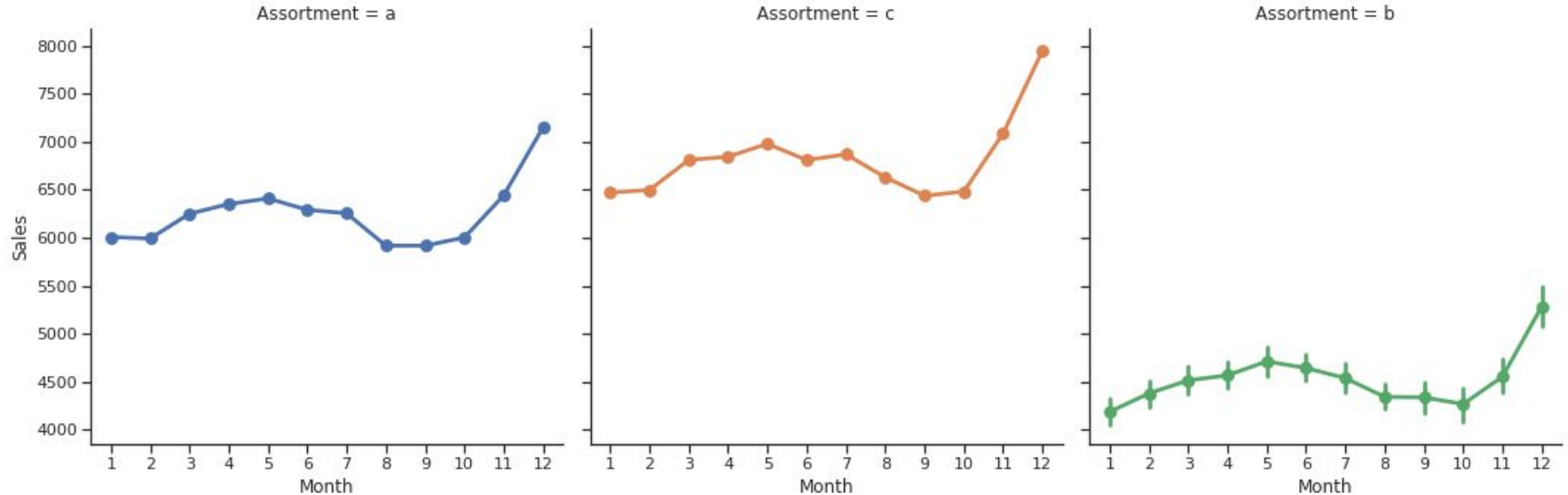
Out of all the store types, type b has the least sales and the promotion didn't make much difference on b as it did on the other types. A more type b focused promotion is necessary to increase the overall sales of the company.

# Weekends



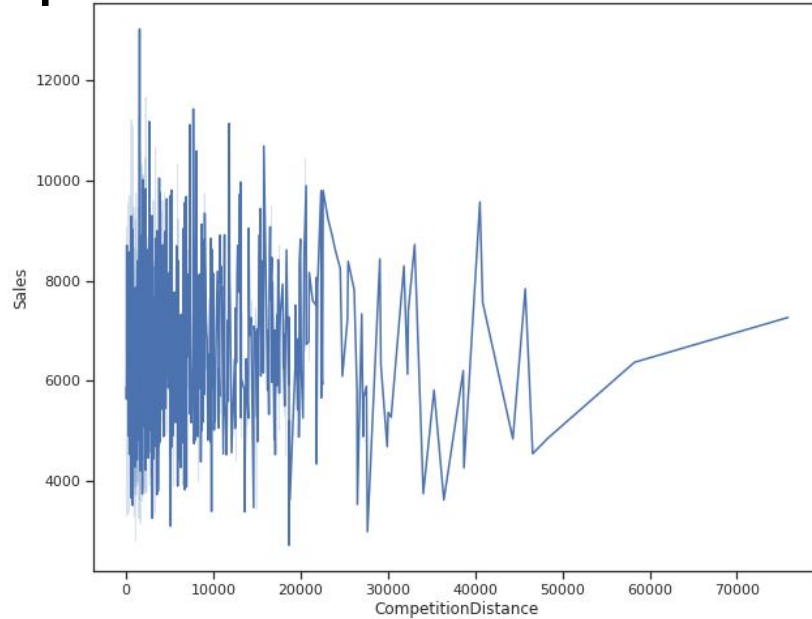
During the weekends storetype c are closed. Among the rest storetype b are doing great on weekends. Storetype d have gap between 10th and 12th month. Type d stores are out of service between the 10th and 12th month.

# Assortment



Assortment c (extended) has the highest sales and assortment b (extra) has a very low sales in comparison. Assortment a (basic) is a little bit down from assortment c. A more profitable store types are deep and wide assorted types.

# Competitors



It is hard to get a meaningful insight from the graph. Despite that, we can see stores with high sales happen where the distance is small. This indicate that the stores are located at city center or around hospitals where there are more customers. Although distance matter, stores located at city centers will still get more sales regardless of competitors distance because there are more customers at the city center.