Conclusion

Q1 How profit can be maximized and products which are underperforming and through our analysis we have tried to identify which these products are, how their sales have been over the years and if discounts have had any contributing effect to increase their sales.

We note that discounts and costs are overall a significant factor affecting the profitability across all sub-categories and across all states. **The top profitable products copiers and phones in the Technology category and the bottom products are Tables and Bookcases in the Furniture category. Whilst Copiers have low demand, due to high selling price, they are the most profitable and whilst Tables have a good demand, due to high discounts and associated costs they incur a loss. On an average, discount offered in 15.62% and Furniture is heavily discounted, Technology has the highest sales and profits, and Office Supplies are the most in demand.** Across the years of 2014 – 2017, we notice a spike in sales March, September, and November and notice a decline in sales for months of February and October. **Management should assess this trend and identify the reasons behind the decline in sales for the specific months and the fact consistent demand for high sales months, then what can be done to further increase the sales and profits for those months.** As mentioned, discounts heavily impact profits, such that, products are profitable if they are discounted up to 25% and an increase in discounts with 30% and above result in losses for those products. **Overall, management should try and reduce the discounts and costs of loss making or low profit products and see how they can be increased. States such as Texas with higher discounts offered experience lower profits and California and New York with lower discounts generate higher profits. For other products which generate a low profit and have low discounts, management should consider maybe increasing the discounts to see if sales and profits increase or consider other promotional strategies to improve their profits.**

Q2.

a. a. Whether consumer and corporate divisions should be broken into separate ordering systems with different price?
b. b. Whether prices can be raised for consumers to increase profits and if discounts or implementation of contracts for a continuous supply at a fixed price can boost sales?

We found that there was a total of 793 costumer, of which 73.1% are placing repeat orders. All segments increased year over year, with a slight drop of customer count in the home Office segment in 2015. The Consumer segment was the overall most profitable market segment, with a large increase in growth in 2017 versus any other segment. Consumers represent over 50% of all sales. In all segments, Technology is the most profitable category in relation to the number of

sales, while furniture is our least profitable. Especially in the consumer segment, Furniture has sales comparable to all other categories, however it has significantly lower profits.

Consumer's most profitable category were copiers followed closely by phones. For Corporate and Home Office, copiers was a standout as the most profitable. For all segments, Binders and Paper are the largest quantity of sub-categories ordered. For Consumer and Corporate, Chairs and Appliances are the two worst sub-categories ordered, which Labels and Chairs were the lowest quantities orders for Home Office.

Overall, our recommendation would not be to split the segments into different ordering systems, as they all follow along a similar ordering pattern. Instead, focus should instead be applied to the individual customer level, giving higher, more personalized attention, to customers with higher ordering volumes.

Q3:

a. Do seasons have any relation to sales and quantities across different states?
b. Do seasons create shipping delays across regions, further impacting sales?

We found that there was a seasonality to a specific subset of products, mainly products that were priced within our lowest price group, items below $100. There are a few one time purchases that skew the results pretty heavily when including them. Fall is significantly more profitable than any other season. Most products that were ordered a frequent amount fell into the office supply category, specifically paper and binders, however binders were discounted quite heavily as well, leading to a loss of potential profits.

When investigating why these sales were happening, especially in the fall, we investigated states with the most universities, and they matched up with states with the highest gross sales during the fall. Texas was an anomaly due to the large number of discounts applied, but it does have a significant portion of the nations universities.

While investigating shipping, most orders shipped within 4 days, and most of the orders that did take longer than 4 days to ship took place in regions with high amounts of profits, showing there was not a link between seasons impacting shipping and profits. Fall had the highest amount of shipping delays, but also was the most profitable season.

Our recommendation would not be to look into more distribution centers, but into hiring more fulfillment staff to make sure orders can go out faster. Additionally, we should target states with higher percentages of schools during the fall, especially pushing products in the office supply categories.

We learnt various tools and concepts for visualization and by creating multiple calculated fields, we could insert additional variables in the dataset which allowed us to perform a better analysis. Through the various visualization models, we could convert our data to graphical representation which allowed us to understand what the variables in the dataset represent. To address the questions raised, our analysis was depicted in the form of visualization through bar charts, scatterplots, line graphs and more and by filtering the data as per our needs, we could better understand how different variables perform across multiple years, segments, states and more.

With Tableau we learnt how effective the software is in visualization of data. By parsing raw data into structured format and utilizing the visualization models it was quick and easy to understand the raw data and turn it into knowledge to base our decisions. When extracting the data and inputting the variables in rows and columns the software provides us with easy to understand information, such that, which are the highest profitable products and which are the lowest, which segments are the strongest, which state perform better than others and through all this information and knowledge we were able to provide our recommendation and suggestions to US Superstore and which areas they should focus on and how the overall profits can be improved and losses can be minimized.