Business intelligence analysis for sales

Obtaining insights from data

January 2022

By: Juan Carlos Benavides B

Topics:

- Dashboards
- Data Analysis
- Business Intelligence

Tools:

- Tableau
- SQL

INTRODUCTION

This is a small exercise about an analysis of the famous data set: SuperStore available on the internet. A chain store throughout the U.S.

This report is made for the period of analysis between 2016 and 2019. The dashboards are designed for filtering by years, and similar conclusions can be obtained for every year using the filters. This report only will tell about the whole period.

The main question to answer about performance is:

- Is it always a truth that: the more the sales the more the profits?

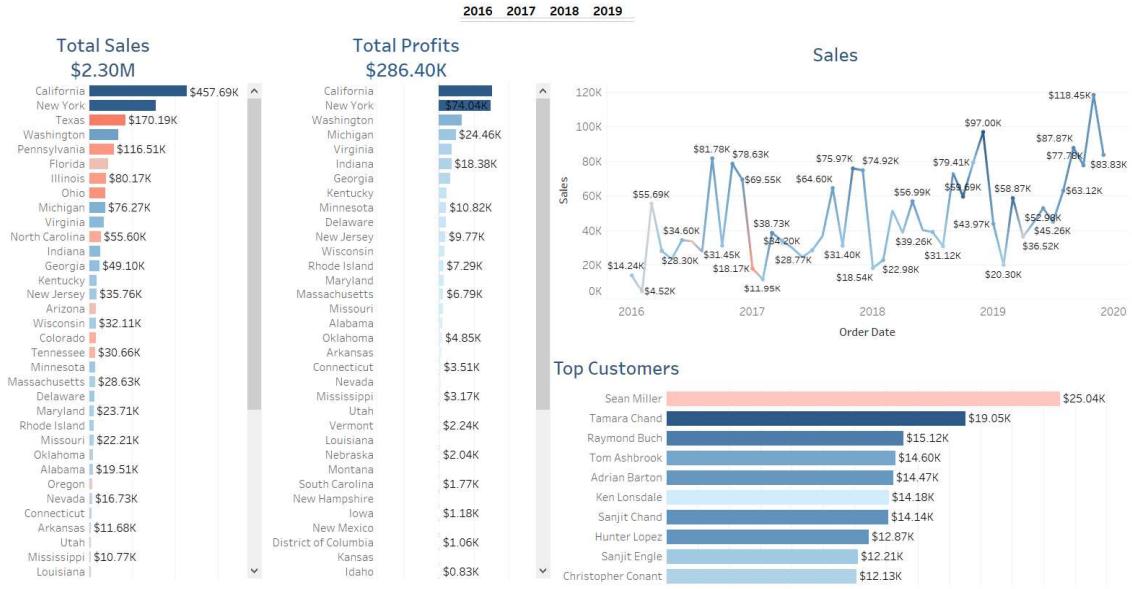
This can seem logical, or counterintuitive if the opposite is found in the data. This work is about explaining this kind of insight.

ANALYSIS AND DASHBOARDS

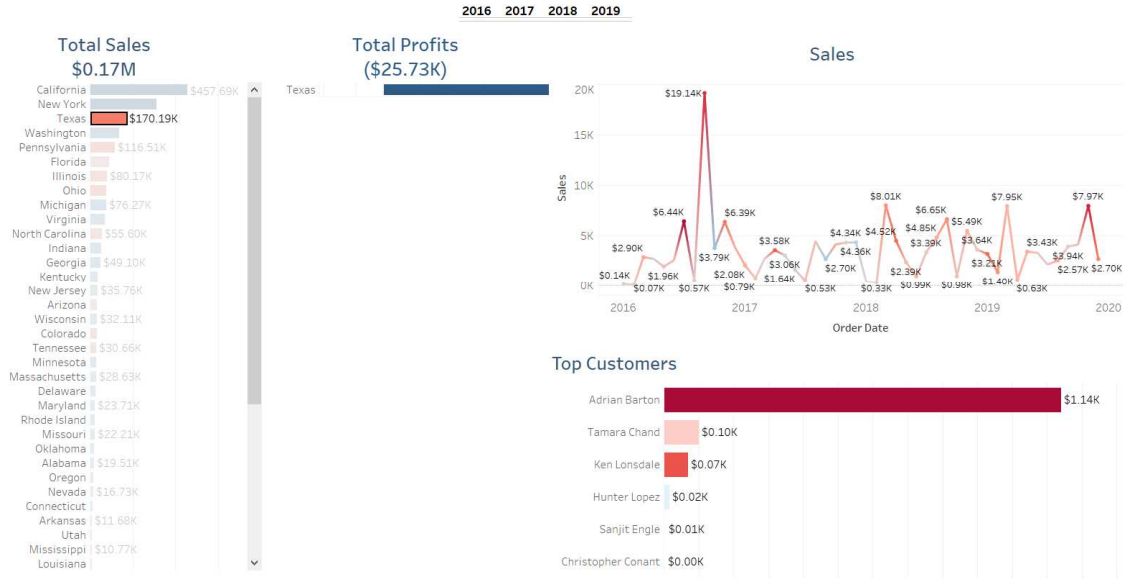
In the Tableau workbook file, it can be found two different dashboards.

The first dashboard tells a story about the relationship between the amount of revenue and profits.

In general, this dashboard shows an increase in sales over time. But an interesting pattern appears when revenues and profits are seen by the state. Not always the highest sales correspond to the highest profits, for instance: Texas is one of the states with the highest sales but at the same time one of the highest in losses.

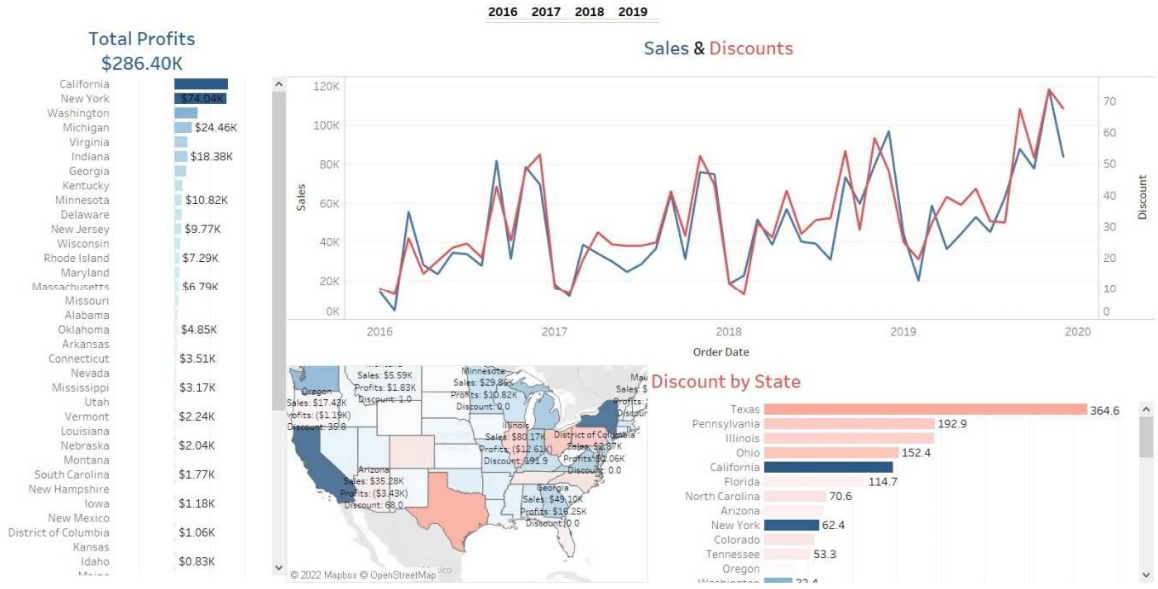


When Texas is selected the dashboard shows that even its top customers generate losses.



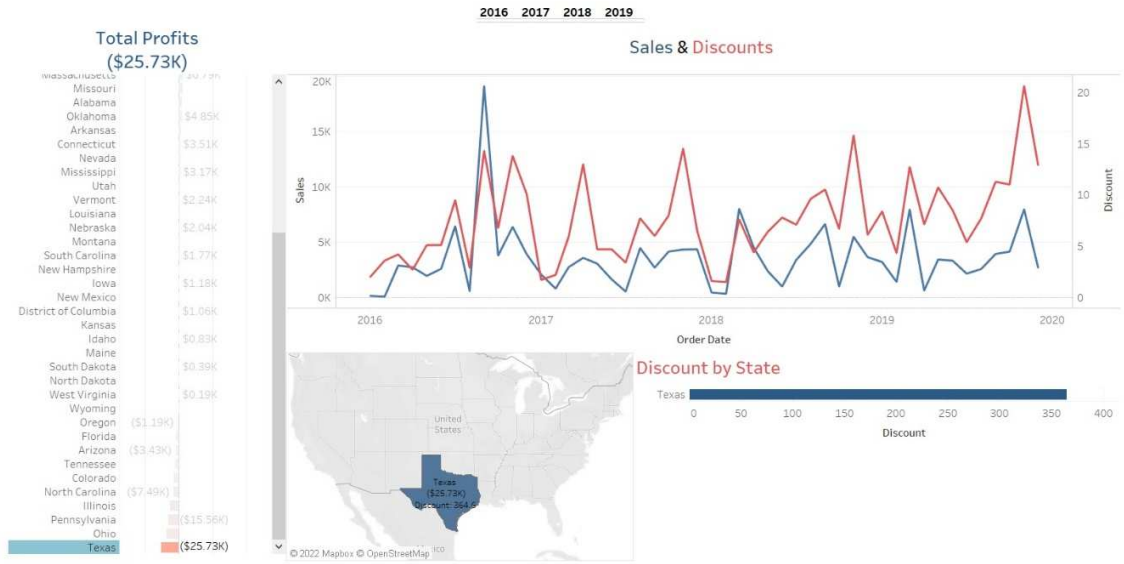
Even though this dashboard is good enough to show important information, it is not possible to conclude the reason for losses in the states. For this reason, the second dashboard was made, this one considers a new variable: discount.

The second dashboard tells a different story, this time about the relationship between discounts and profits (or losses):



The combination of charts shows that Texas is the state that offers more discounts throughout the analysis.

This can be seen much better when Texas is selected:



The chart of Sales and Discounts for Texas tells that the curve discounts are high in comparison with the sales curve.

Different behavior can be seen when a positive financial balance store is chosen, for instance, the one in the state of California:

Now it can be shown that the discount curve and sales curve have a close and balanced relationship.

CONCLUSION

Not necessarily more sales generate more profits.

Stores in states such as California, New York, and Washington have a good performance (profits) because these stores keep in balance the relationship between sales and discounts.

Stores in the states such as Texas, Pennsylvania, Florida, and North Carolina, have poor performance (losses) because these stores offer very high discounts, and sales cannot cover it.

RECOMMENDATION

Store managers in states that are generating losses should take into consideration the relation of the three variables: sales, discounts, and profits.

It is a truth that the more discounts, the more the sales, but every store needs to find the limit where the balance becomes negative.