

Correlation of negative profit and discounts for sales in the Southern Region from 2015-2018

Introduction

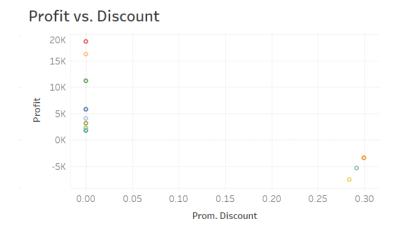
The data science team discovered a correlation in the data for the Southern Region, regarding the consistent negative profit (loss) in three states, and that the same states are also the ones that offer discounts to our clients.

We strongly recommend a further analysis of the discount vs. profit relationship in all our regions to help determine if there is a clear causation for the negative profits being caused by said discounts.

Data

The southern region is composed of 11 states, out of which 3, North Carolina, Tennessee, and Florida, show consistent negative profits in the span of 2015 to 2018 totaling -\$16,254 in that period, even considering that Florida and North Carolina are in the top 3 southern states regarding sales.

While exploring possible reasons for this, we analyzed a possible correlation between profits and discounts, and discovered that these are the only states offering discounts, which average around 29%. We can clearly observe that correlation in the visualization below, plotting profit vs discounts, where the three points under 0 profit correlate to the abovementioned states and are the only ones offering discounts.



Recommendations

From the above, we recommend that there be further analysis of the complete data, to find out if this correlation persists. We also recommend a deeper investigation to comprehend the reason for the given discounts and try to find a causal relationship that can help make clear decisions that will allow profits in those states to rise.