Context

Big Mountain resort is a ski resort seeing 350,000 visitors yearly. In order to improve the distribution of the visitors across the mountain Big Mountain installed a new lift that increased their operation by $1,540,000. The investor wants to keep the profit margin at 9.2%.

Suggested solution

Based on research on other ski resorts, I would recommend increasing the price from $81 to $88. Such an increase will not negatively impact the number of yearly visitors as Big Mountain remains competitive and will generate an extra $7 x 350000 visitors = $2,450,000 revenue yearly.

Competitivity Analysis

Based on a dataset of 317 other ski resorts in the USA, I did a pricing analysis to identify the main factors to influencing the price. The main factors are:
- State where the resort in located
- Vertical drop (altitude of the resort).
- Numbers of runs.

Considering that we can not influence where the resort is located I ignored the state information and built a pricing model based on the other factors.

Clustering of the resorts

I first grouped the resorts into 3 clusters to make sure we will be modeling the price of Big Mountain based on other similar resorts. The first figure below shows that the clusters are strongly influenced by the Summit elevation and Vertical Drop of each resort.

Big Mountain is part of cluster 1, resorts that tend to have a higher summit elevation.

summit_elev by vertical_drop by cluster
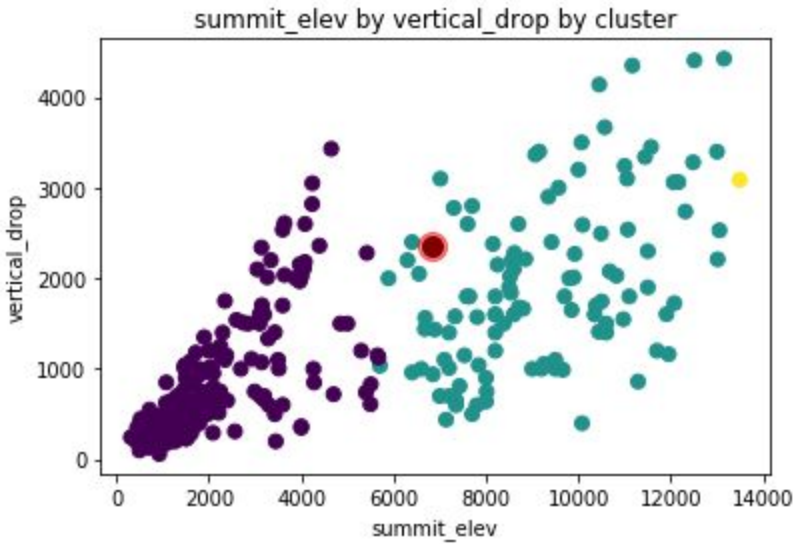
Pricing for resorts in similar cluster

From all resorts in cluster 1 I created a trend line of the price in relation to the vertical drop of the resort.

AdultWeekend by vertical_drop for resorts in cluster 1
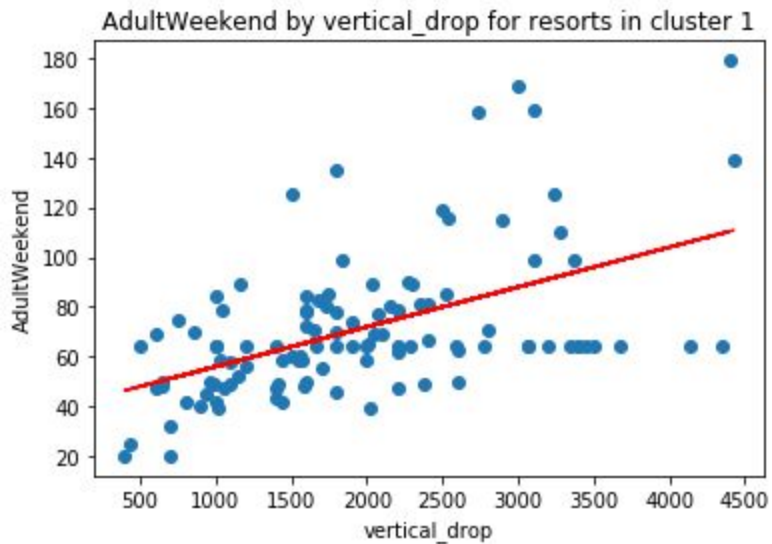
[Here is where if my model was correct the trend line would indicate that for a Vertical drop of about 2400, the suggested price will be about $88.]

Conclusion

Big Mountain with its improved infrastructure can safely increase his ticket price during the week and the weekend from $81 to $88 without risk of losing his customers.