Big Mountain Resort - Pricing Strategy Report

Big Mountain Resort recently installed a new chair lift, increasing operating costs by $1.54M this season. Investors want to keep the profit margin at 9.2%. Thus, the company seeks to increase this season's revenue by at least $1.696M to cover the new operating costs and maintain its profit margin.

We examined the possibility of increasing adult chairlift tickets as the main method to increase revenue in this upcoming season. To do this, we developed a model which uses all of the features offered at Big Mountain, and predicts the market price of each ticket in comparison to all of the other ski resorts and their accompanying features and ticket prices. This model assumes the following: that the other ski resorts are pricing their ticket accurately, and that the ski resort market behaves as a free market.

We were given a dataset of 330 ski resorts in the US, including our own Big Mountain Resort. Of the 330 entries, we kept 277 and discarded those with missing ticket prices.

In our modelling, we found that the following 8 features play a role in determining a ski resort's market share:

- **Vertical_drop** -- distance between the highest lift-served point and the base of the resort, measured in feet.
- **Snow Making_ac** -- the area (in acres) of skiable terrain covered by man-made snow.
- **Total_chairs** -- the total number of chairlifts.
- **fastQuads** -- the total number of fast 4-person chairlifts.
- **Runs** -- the total number of runs in a ski resort.
- **LongestRun_mi** -- the length of the longest run (in miles).
- **Trams** -- the number of trams.
- **SkiableTerrain_ac** -- the total skiable area in the resort (in acres).

Figure 1 in the Appendix shows the distribution of weekday and weekend ticket prices of ski resorts by state. Looking at Montana, we see that there is an outlier at $81. This is our resort, which is shown more clearly in Figures 2 and 3. We are priced higher than any other ski resort in Montana.

This pricing is justified when we see that Big Mountain is fairly high on some of the league charts of facilities offered (see Figures 4 through 11 in the Appendix). Our model, however, predicts that the Big Mountain could support a ticket price of **$94.22**. We have a mean absolute error of $10.39, which suggests that Big Mountain's true ticket price value may be somewhere between **$83.83** and **$104.61**. Nevertheless, $83.83 is still higher than the current $81 ticket price; it calls for an increase.

The new chairlift increases operating costs by $1.54M this season. Given that we expect 350k visitors, and each visitor skis on average for five days, we expect to sell approximately 1.75M tickets. If we split the operating costs across all tickets, we would see a ticket price increase of only $0.88 to break even. If we want to maintain a profit margin of 9.2%, or a revenue increase of $1.696M, then the ticket price need only increase by $0.97.

To summarize our findings: if we increase our ticket price by **$0.97**, we would be able to cover the new operating costs and maintain a profit margin of 9.2%. However, we can go further

and increase the price by **$2.83**, or possibly more. Such a price increase is reflective of Big Mountain's market share, based on its offered features.

The increase in revenue could be invested for future improvements. In our modeling, we found 2 worthwhile scenarios to consider:

1. Permanently closing down up to 5 of the least used runs.
2. Increase the vertical drop by adding a run to a point 150 feet lower down but requiring the installation of an additional chair lift to bring skiers back up, without additional snow making coverage.

Our modelling showed that scenario 2 supported an increase for ticket price by $1.99 (increasing the season's revenue by $3.47M). Scenario 1 indicated no decrease for the closing of 1 run, a decrease of $0.41/ticket ($0.72M/season) in closing 2 runs, decrease of $0.67/ticket ($1.17M/season) for closing 3-5 runs, $1.26/ticket ($2.2M/season) for 6-8 runs, and $1.71/ticket ($2.99M/season) for 9-10 runs. This is modelled in Figure 12.

It may be worthwhile to consider evaluating which runs in Big Mountain saw the least number of visitors last season, and consider further modelling to see how closing any particular run would affect the market value of the resort. Possibly we could see if there are other resorts who closed their runs (sample size of 40-50 resorts), and how that has affected their market value.

I also encourage the business to consider how our marketing team is promoting the resort. Big Mountain is high on the league charts of facilities offered, but our ticket price is undervalued and not reflective of our actual market value. The company may consider looking into how we can promote our resort to communicate with visitors why our resort is worth the increase in the ticket price.

[End of Report]

Appendix:

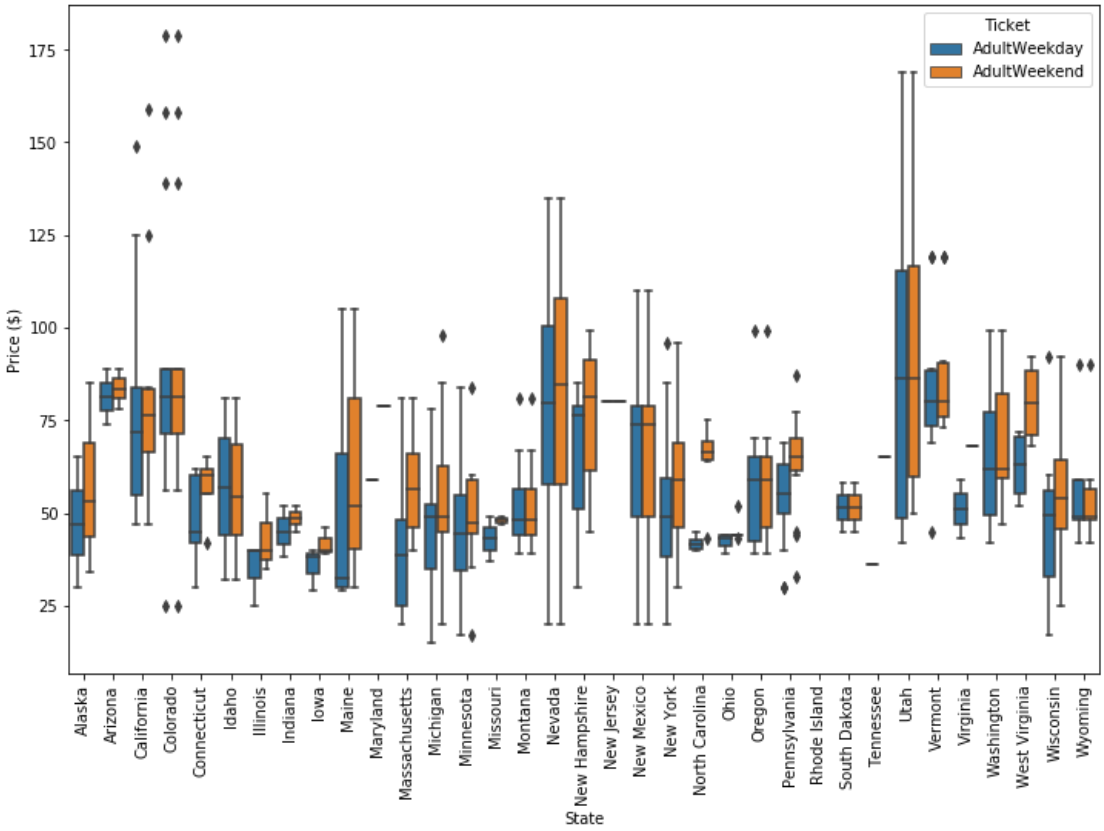

Figure 1. Adult Weekday (blue) and Weekend (orange) ticket prices for ski resorts in the US.

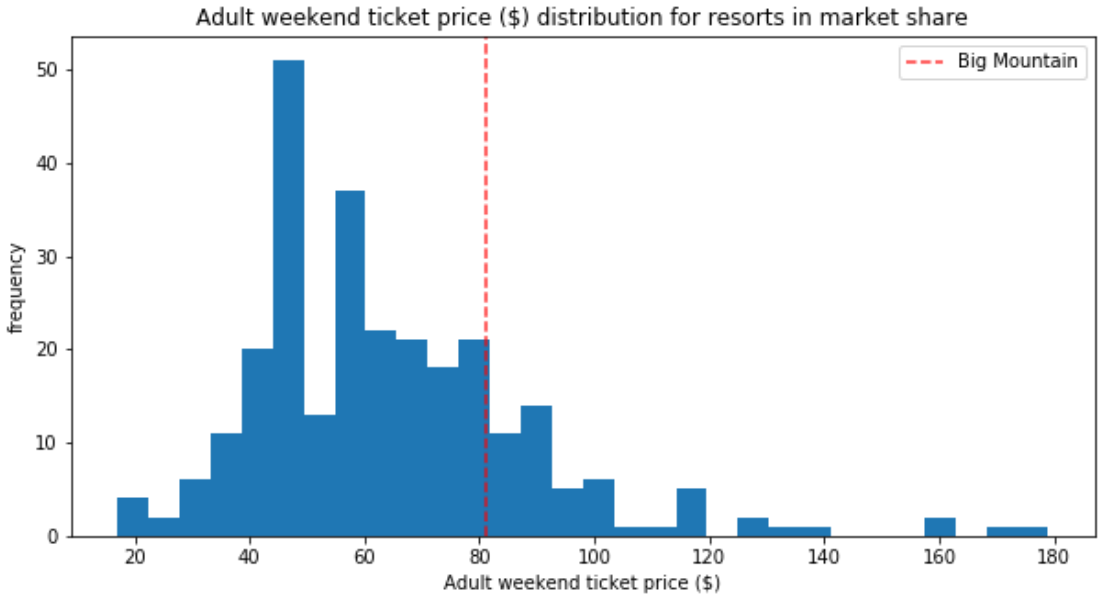

Figure 2. Distribution of adult weekend ticket prices of 277 ski resorts in the US. Big Mountain Ski Resort is marked in red ($81).

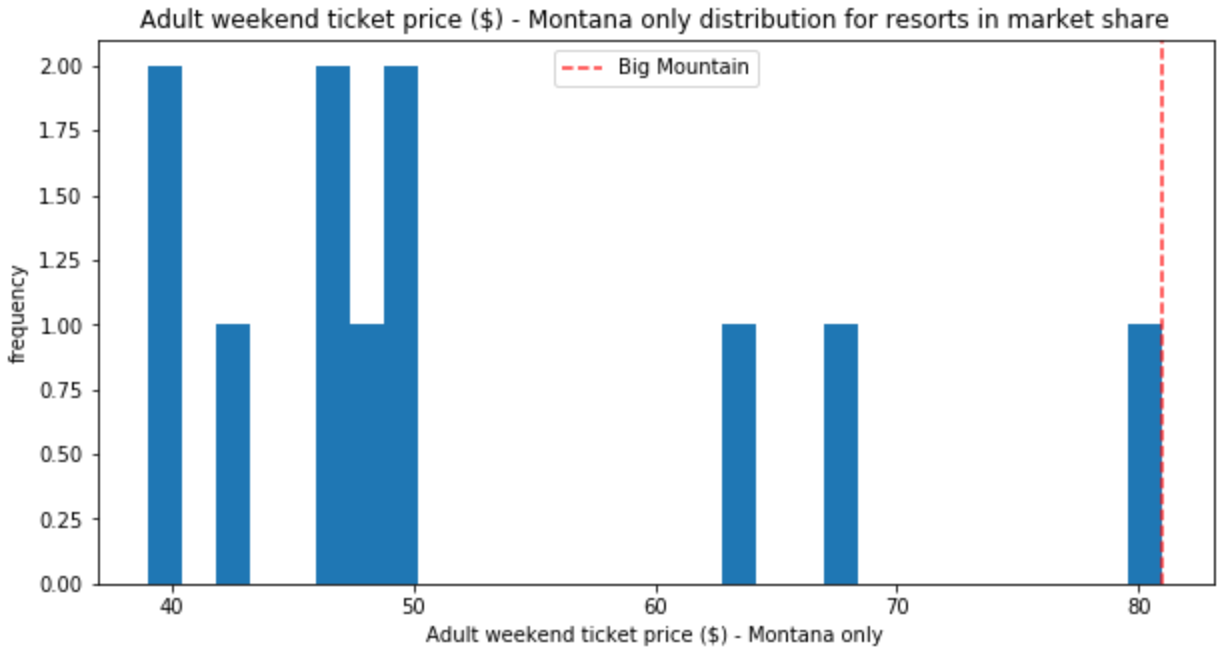

Figure 3. Distribution of adult weekend ticket prices of ski resorts in the state of Montana. Big Mountain Ski Resort is marked in red ($81).

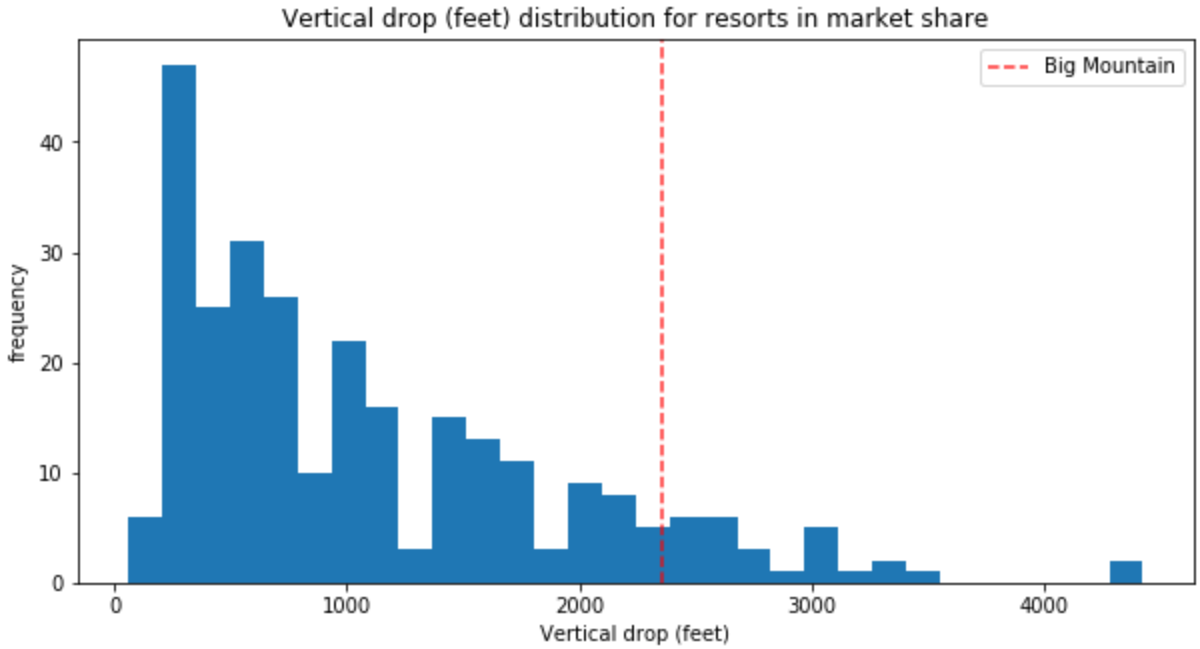

Figure 4. Distribution of vertical drop for ski resorts in the US.

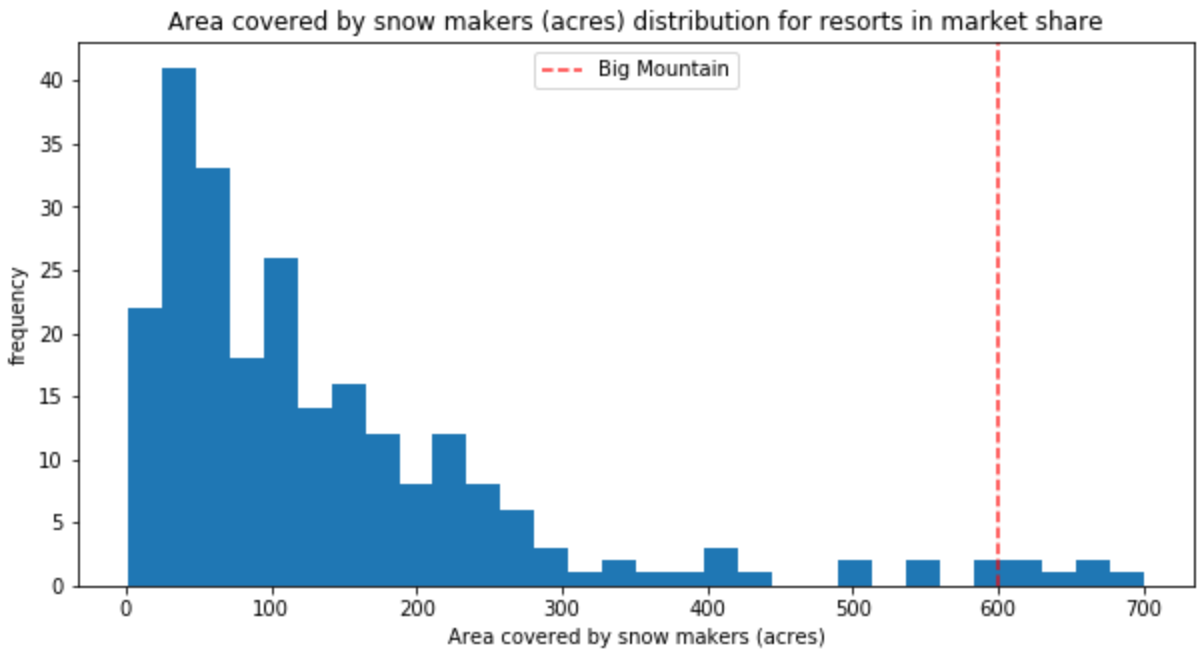

Figure 5. Distribution of the area covered by snow makers (acres) for ski resorts in the US.

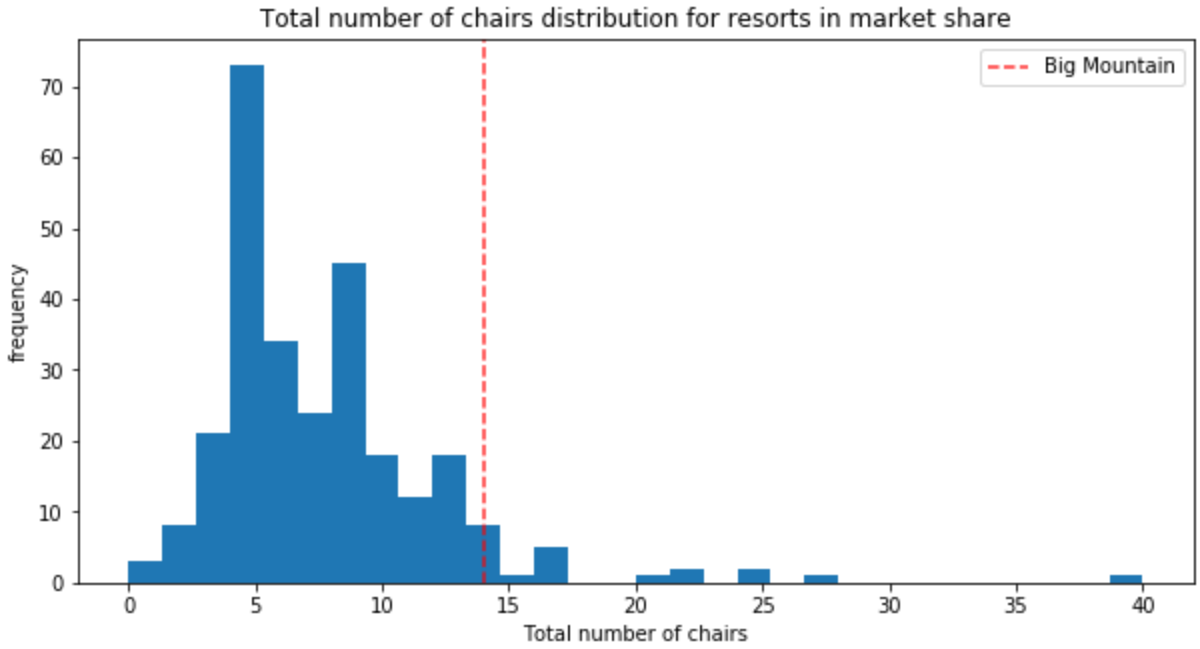

Figure 6. Distribution of the total number of chairlifts for ski resorts in the US.

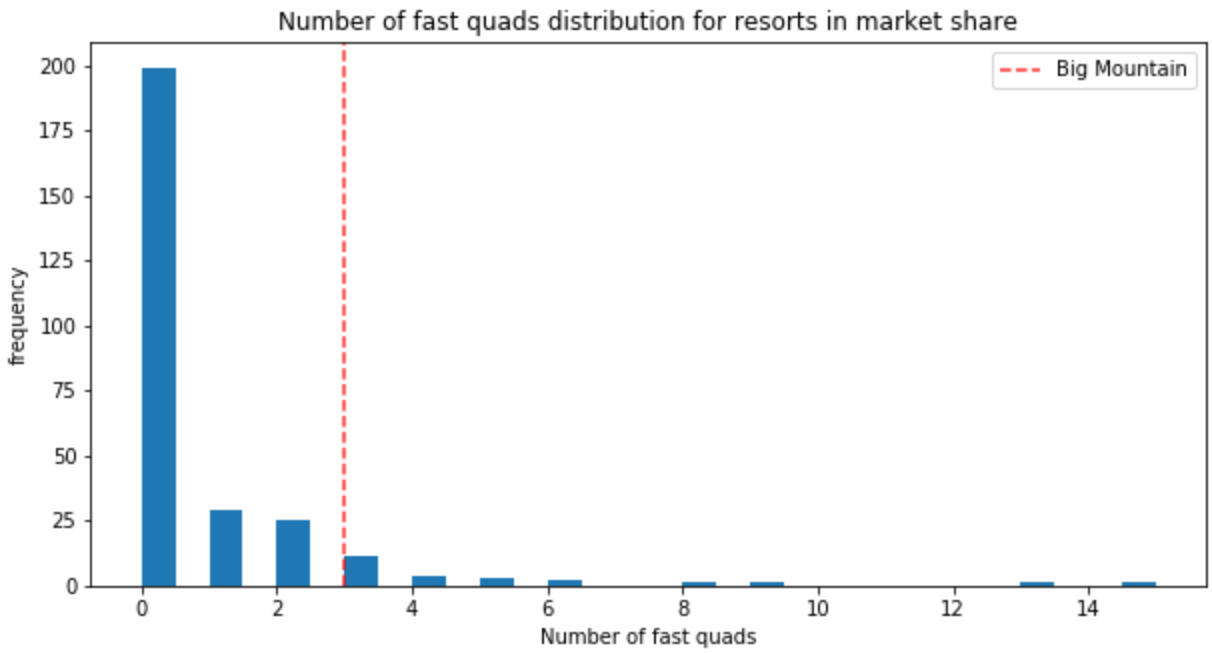

Figure 7. Distribution of the total number of fast quad-chairlifts for ski resorts in the US.

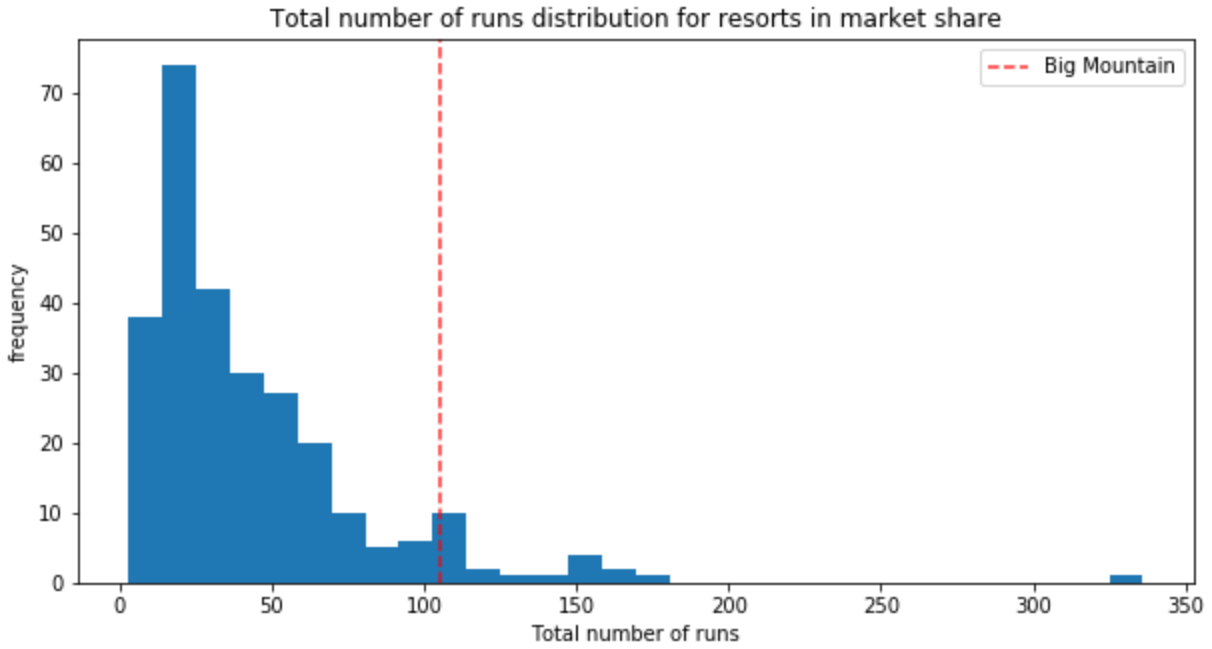

Figure 8. Distribution of the total number of runs for ski resorts in the US.

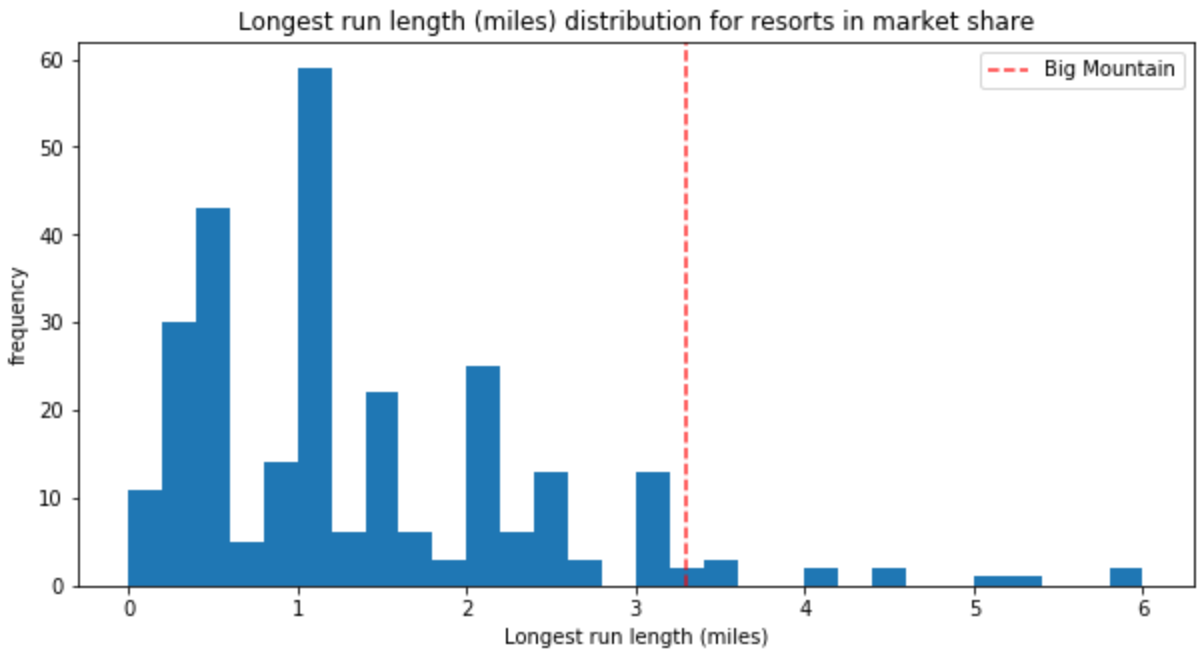

Figure 9. Distribution of the longest run (miles) for ski resorts in the US.

Figure 10. Distribution of the number of trams for ski resorts in the US.

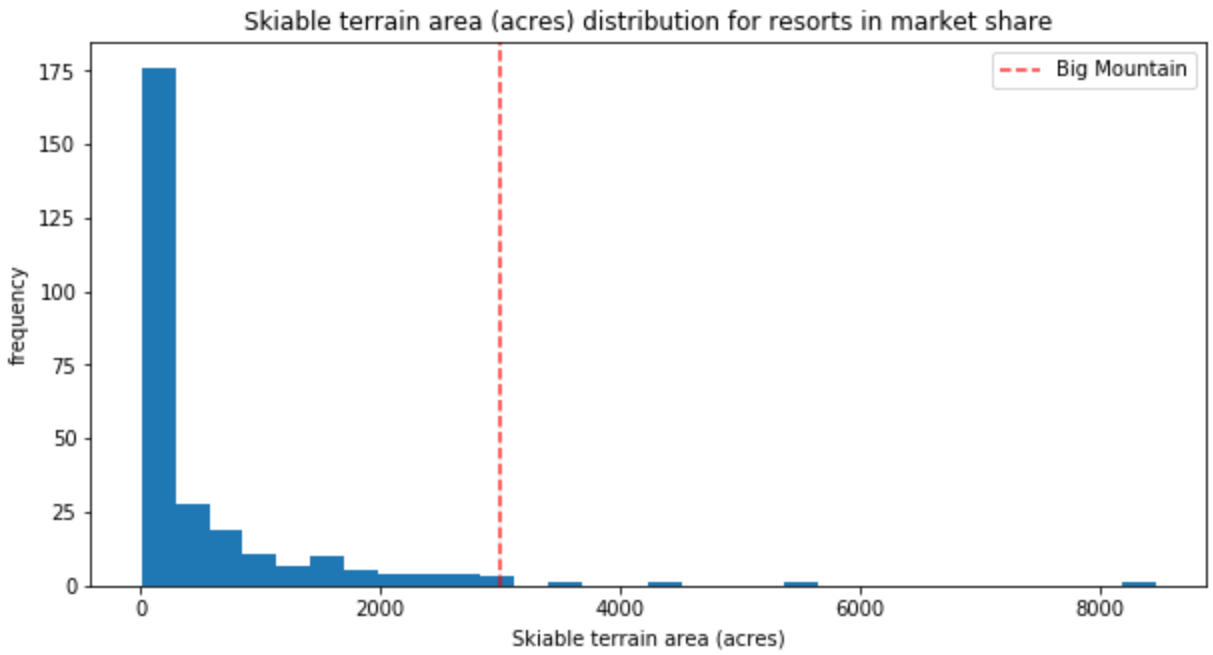

Figure 11. Distribution of the total skiable terrain (acres) for ski resorts in the US.

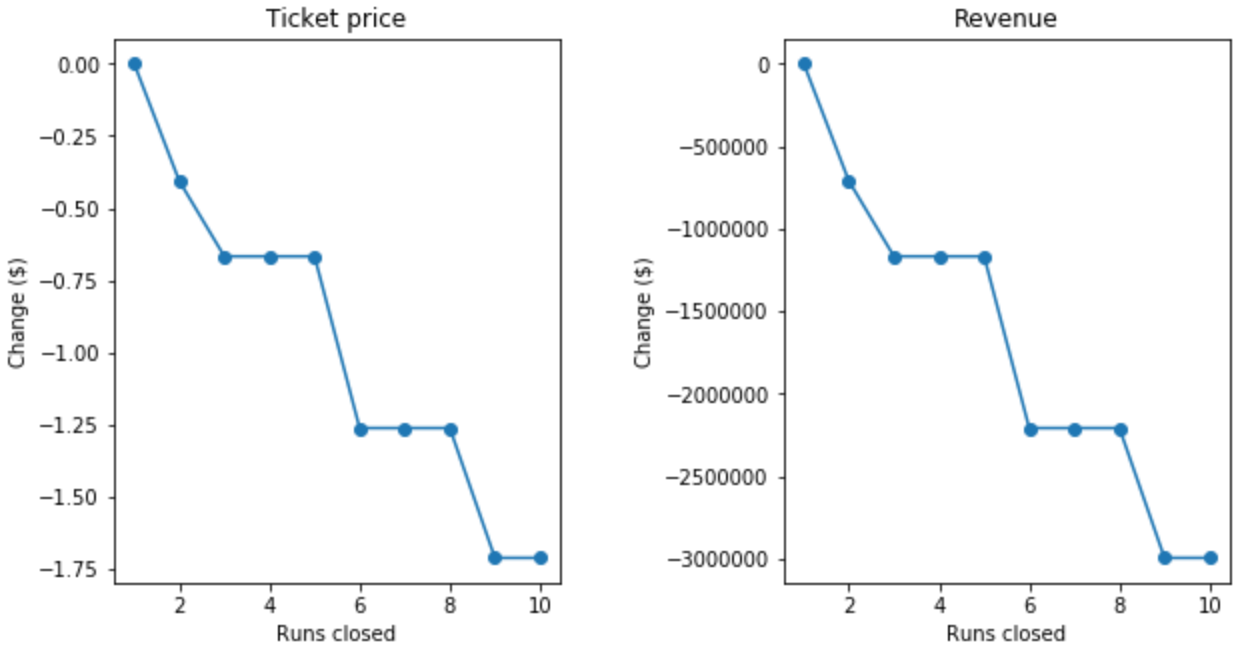

Figure 12. Projected decrease in ticket price and revenue based on number of runs closed, and their effect on the market value of the ski resort.