

# Big Mountain Resort

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# Problem statement

**What opportunities exist for Big Mountain Resort to increase the customers or to raise the ticket price to compensate the additional chair operating costs of \$1,540,000 this season by 5% the next season compared to the previous season?**

**Context:** Big Mountain Resort strategy has been to charge a premium above the average price of resorts in its market segment due to some important facilities like 11 lifts, 2 T-bars, and 1 magic carpet for novice skiers compared to others resorts. Pricing based on more number of runs a visitor gets by adding a chair makes look reasonably priced and also they can accomodate more visitors and increase the profits.

**Criteria for success:** Success for this project = working towards increasing the visitors or increasing the ticket price to generate \$1,540,000 more profits compared to previous season

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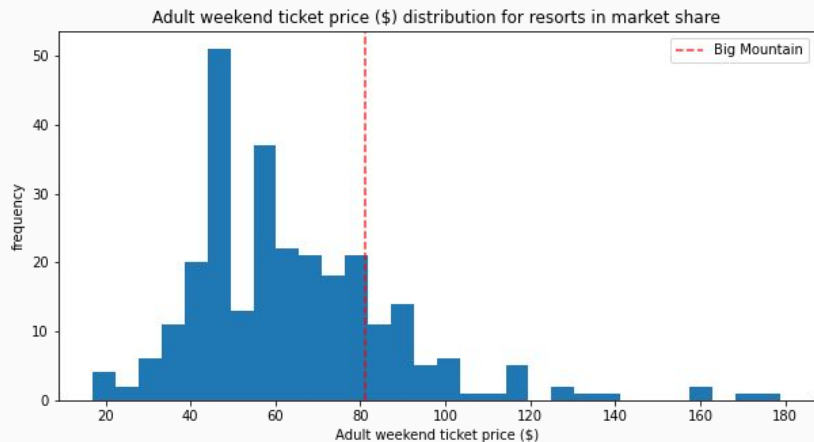
**Scope of solution:** What is the focus of this business initiative? I.e. What are you specific items will you focus on exclusively? The Main focus of Big Mountain Resort marketing team would be to increase the price of the ticket by providing more number of runs to the visitor

**Constraints with solution space:** The main constraint would be the time it takes to increase the profits. There's a suspicion that Big Mountain is not capitalizing on its facilities as much as it could. Basing their pricing on just the market average does not provide the business with a good sense of how important some facilities are compared to others

# Recommendation and key findings

- ❑ **Big Mountain is fairly high on most of the league charts of facilities offered except the trams, so the modeled price is much higher than the current price. They can think about increasing the ticket prices.**
- ❑ **Adding an additional chair lift to help increase the distribution of visitors across the mountain is not required since Montana state is less densely populated. This additional chair increases their operating costs by \$1,540,000 this season which can be avoided.**
- ❑ **Big Mountain has important some facilities compared to others which needs to highlighted to justify the increase in ticket price .**

# Modelling results and analysis



First step in modelling is to refit the model using available data excluding Big Mountain, because we want to calculate a price based only on its competitors. We don't want Big Mountain's current price to bias this.

Big Mountain Resort modelled price is \$104.08, actual price is \$81.00. Even with the expected mean absolute error of \$10.66, this suggests there is room for an increase.az

# Modelling results and analysis

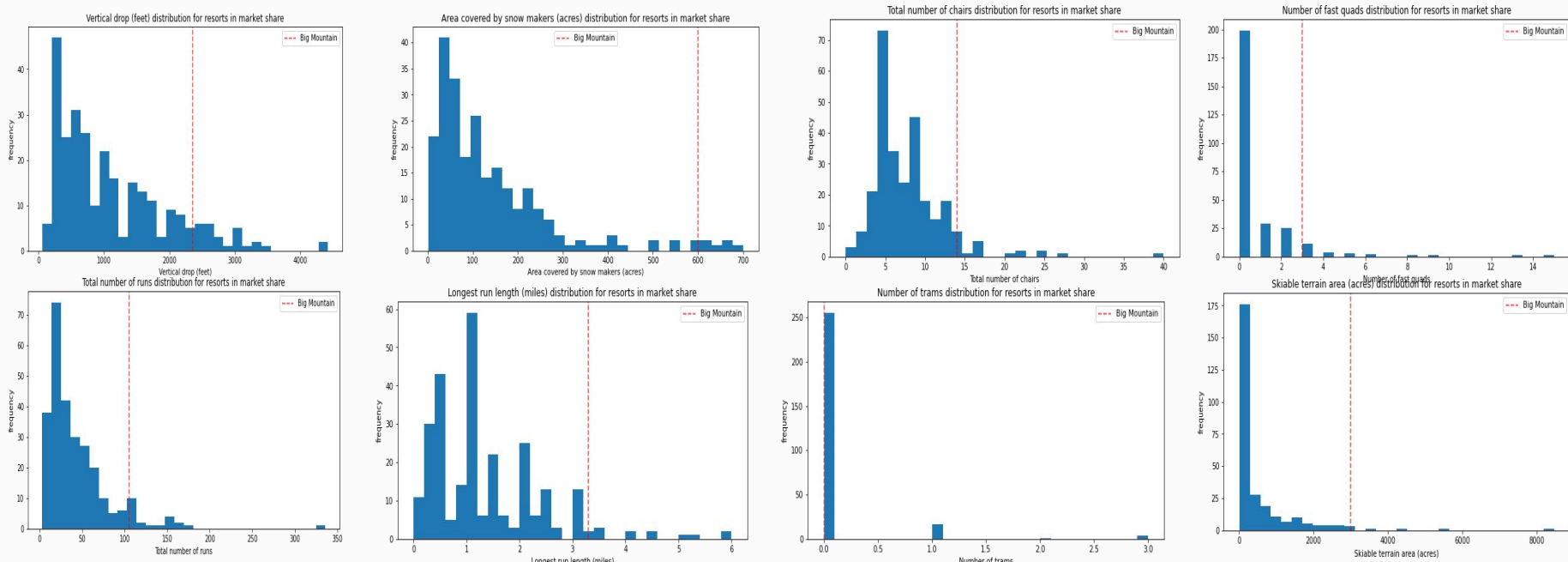
## Features that came up as important in the modeling

- Vertical\_drop
- Snow Making\_ac
- Total\_chairs
- fastQuadsRuns
- LongestRun\_mi
- Trams
- SkiableTerrain\_ac

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# Modelling results and analysis

## Where Big mountain stands



# Modelling results and analysis

The potential scenarios for either cutting costs or increasing revenue (from ticket prices). However, the resort operates within a market where people pay more for certain facilities, and less for others. The business has shortlisted some options:

**Scenario 1:** Permanently closing down up to 10 of the least used runs. This doesn't impact any other resort statistics.

The model says closing one run makes no difference. Closing 2 and 3 successively reduces support for ticket price and so revenue. If Big Mountain closes down 3 runs, it seems they may as well close down 4 or 5 as there's no further loss in ticket price. Increasing the closures down to 6 or more leads to a large drop.

**Scenario 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.

This scenario increases support for ticket price by \$3.50. Over the season, this could be expected to amount to \$6125000.

**Scenario 3:** Same as number 2, but adding 2 acres of snow making cover. This scenario increases support for ticket price by \$3.50. Over the season, this could be expected to amount to \$6125000. Such a small increase in the snow making area makes no difference!

**Scenario 4:** This scenario calls for increasing the longest run by .2 miles and guaranteeing its snow coverage by adding 4 acres of snow making capability. No difference whatsoever. Although the longest run feature was used in the linear model, the random forest model (the one we chose because of its better performance) only has longest run way



# Summary and conclusion

Big Mountain resort currently charges \$81.00. Big Mountain Resort modelled price is \$104.08 and expected mean absolute error of \$10.66. This suggests that there is room for an increase.

Features that came up as important in the modeling included vertical\_drop, Snow Making\_ac, total\_chairs, fastQuads, Runs, LongestRun\_mi, trams and SkiableTerrain\_ac. Big Mountain is doing well for all the features, but there are no trams. The vast majority of resorts have no trams similar to Big Mountain. so increase in ticket price shouldn't be a problem.

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Big Mountain by adding a run, increasing the vertical drop by 150 feet, and installing an additional chair lift increases support for ticket price by \$3.50. Over the season, this could be expected to amount to \$6125000.

By adding 2 acres of snow making, increasing the longest run by 0.2 miles and guaranteeing its snow coverage by adding 4 acres of snow making capability makes no difference for the ticket price.