

Problem Identification

What opportunities exist for Big Mountain Resort to increase profits by cutting costs without undermining ticket price or making investments that support a higher ticket price?

- 1 Context: Big Mountain Resort, a popular ski resort in Montana, charges a premium above the average price of resorts in its market segment. This business strategy has its limitations and is suspected to be suboptimal. The resort needs a more data-driven business strategy taking into account the relative importance of certain facilities.
- 2 Criteria for success: Maintain profitability
- 3 Scope of solution space: The focus will be on determining what facilities need to be operated on open days at Big Mountain Resort to ensure visits are a quality experience for the ticket price without going over budget.

Problem Identification

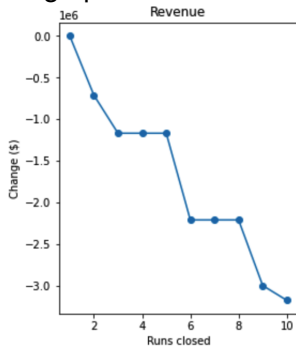
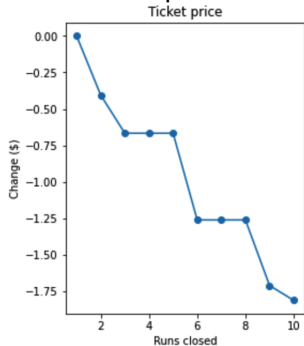
- ④ Constraints within solution space: Big Mountain Resort has recently installed an additional chair lift to help visitors move across the mountain. This additional chair increases their operating costs by \$1,540,000 this season.
- ⑤ Stakeholders to provide key insight:
 - Jimmy Blackburn—Director of Operations
 - Alesha Eisen—Database Manager
- ⑥ Key data sources: CSV file gotten from Alesha containing information about 330 resorts in the US considered to be part of the same market share as Big Mountain Resort—has data about ski lifts, ski lift chairs, ticket prices, open days, snow machines, snowfall, skiable area, and lighted area skiable at night.

Recommendation and key findings

- The additional operating cost of a new chair lift is \$1,540,000 but per ticket less than \$1 because installing it, opening a new run, and increasing the vertical drop by 150 feet supports a price increase of \$1.99 that would account for an increase of revenue of \$3,474,638. Therefore we strongly recommend taking this scenario, scenario 2, into further consideration for future improvements.
- Also, it may be possible to cut costs by closing runs without losing too much revenue, as suggested by scenario 1.
- Big Mountain currently charges \$81 for an AdultWeekend ticket. According to our modeling, a ticket price of \$95.87 could be supported in the marketplace by Big Mountain's facilities.

Modeling results and analysis

Scenario 1: permanently closing up to 10 of the least used runs



From the data, it is not obvious what are the operational costs associated with features besides chair lifts, but if the reduction in operating costs from closing runs more than compensates for reduced revenue from a lower market price for the tickets, it may also be worth it to take into consideration scenario 1.

Modeling results and analysis

Scenario 2: increasing the vertical drop by adding a run to a point 150 ft lower down but requiring the installation of an additional chair lift to bring skiers back up, without additional snow making coverage

- This increases the support for the ticket price by \$1.99.
- Over the season, this is expected to amount to \$3,474,638.

Scenario 3: same as scenario 2 but adding 2 acres of snow making cover

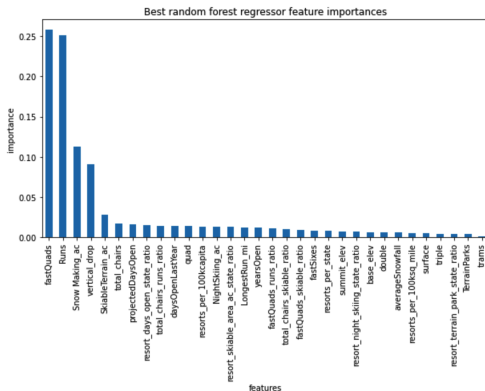
- This increases the support for the ticket price by \$1.99.
- Over the season, this is expected to amount to \$3,474,638.

(no difference from scenario 2)

Modeling results and analysis

Scenario 4: increase the longest run by 0.2 miles to boast 3.5 miles length, requiring an additional snow making coverage of 4 acres

- The predicted increase in support for the ticket price in this scenario is zero. This is expected because the longest run feature has low importance in the random forest model:



Summary and conclusion

- Big Mountain currently charges \$81 for an AdultWeekend ticket. According to my modelling, a ticket price of \$95.87 could be supported in the marketplace by Big Mountain's facilities.
- The additional operating cost of the new chair lift is \$1,540,000, but per ticket it seems to be less than \$1 because installing it, opening a new run, and increasing the vertical drop by 150 feet supports a price increase of \$1.99 that would account for an increase of revenue of \$3,474,638. I would strongly recommend scenario 2 for further consideration.
- Scenario 1 could possibly work if the reduction in operating costs from closing runs more than compensates for reduced revenue from a lower ticket price.