

The background features a minimalist design with a vertical line on the left side. There are three overlapping circles: a large light pink one at the top left, a medium light blue one in the center, and a large medium blue one at the bottom right. The text is centered over these circles.

# Evaluation of ticket price and facilities

Big Mountain Resort

# Background

- Current ticket price is set to be slightly higher than the average price in Big Mountain's market share
- Current ticket price does not take into account facilities available at Big Mountain relative to other resorts
- Aim: increase Big Mountain Resort net profit margin by  $\geq 1$  percentage point over the next ski season by re-evaluating current ticket prices and facilities provided

# Approach

1. Benchmark ticket price to other resorts in market segment based on specific features or facilities available
2. Better understand the facilities available at Big Mountain relative to its competitors, particularly which can be eliminated without negatively impacting ticket price.
3. In particular, evaluate the following shortlisted scenarios:
  1. Permanently closing down up to 10 of the least used runs. This doesn't impact any other resort statistics.
  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
  3. Same as number 2, but adding 2 acres of snow making cover
  4. Increase the longest run by 0.2 mile to boast 3.5 miles length, requiring an additional snow making coverage of 4 acres

# Recommendations

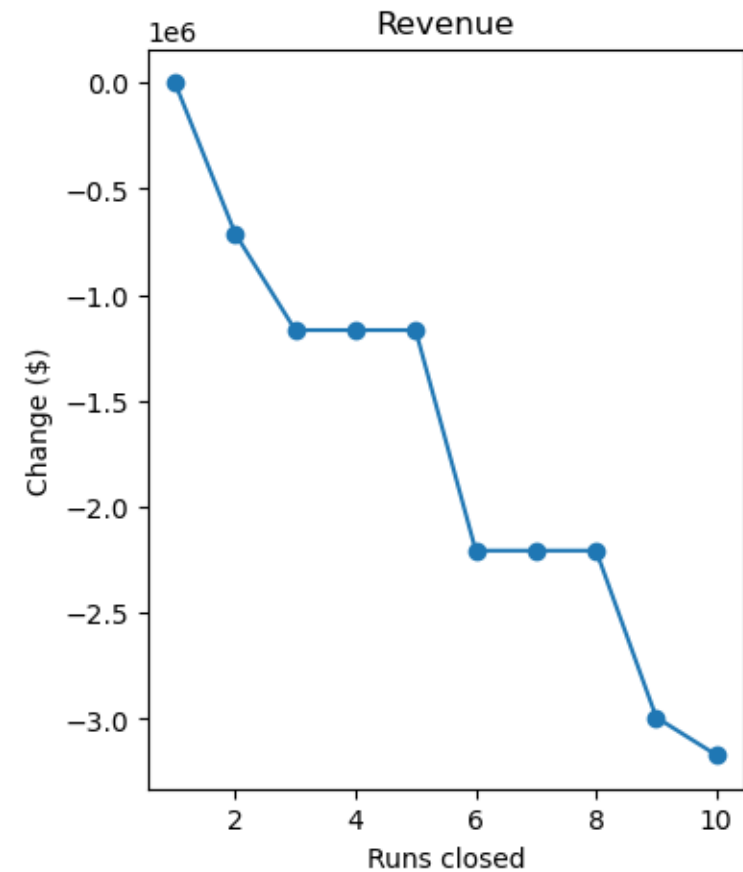
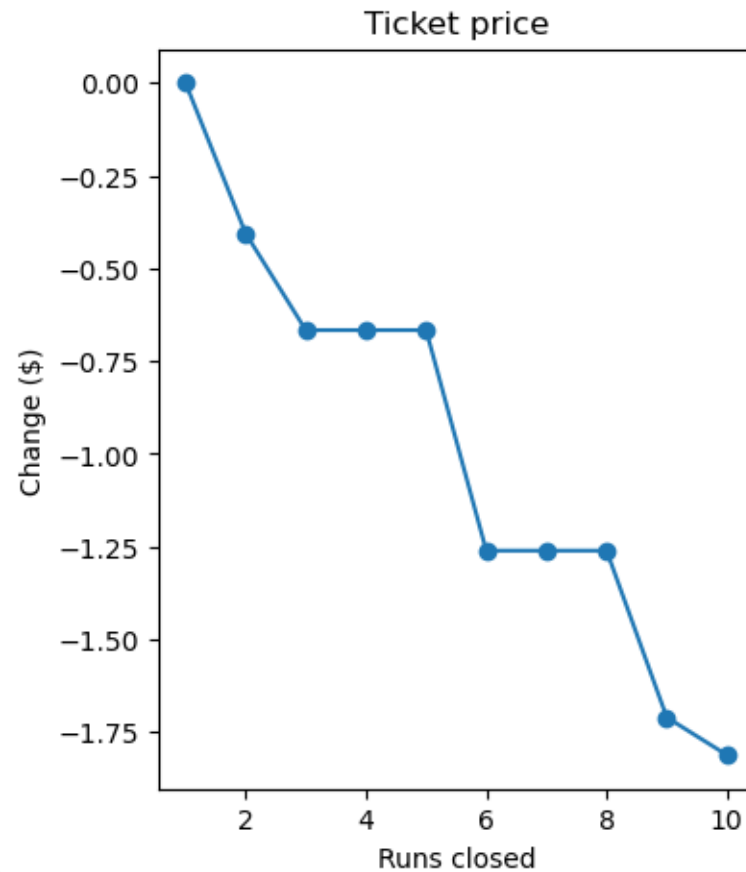


- Shut down 1 of the least used runs (ticket price impact predicted: none)
- Increase vertical drop by 150 feet with an additional run; add chair lift but no snow making (ticket price impact predicted: + \$1.99/ticket)

# Methodology

- Chosen model: **random forest**
  - missing values imputed based on median, no scaling, 69 trees
  - improved predictions over mean alone and linear regression
  - mean absolute error: \$10.39, with standard deviation \$1.47
- Data used:
  - database export with information on 330 resorts nationwide in same market segment
  - no recommendation for additional data collection

# Scenario 1: Closing 1 run has no negative impact on ticket price

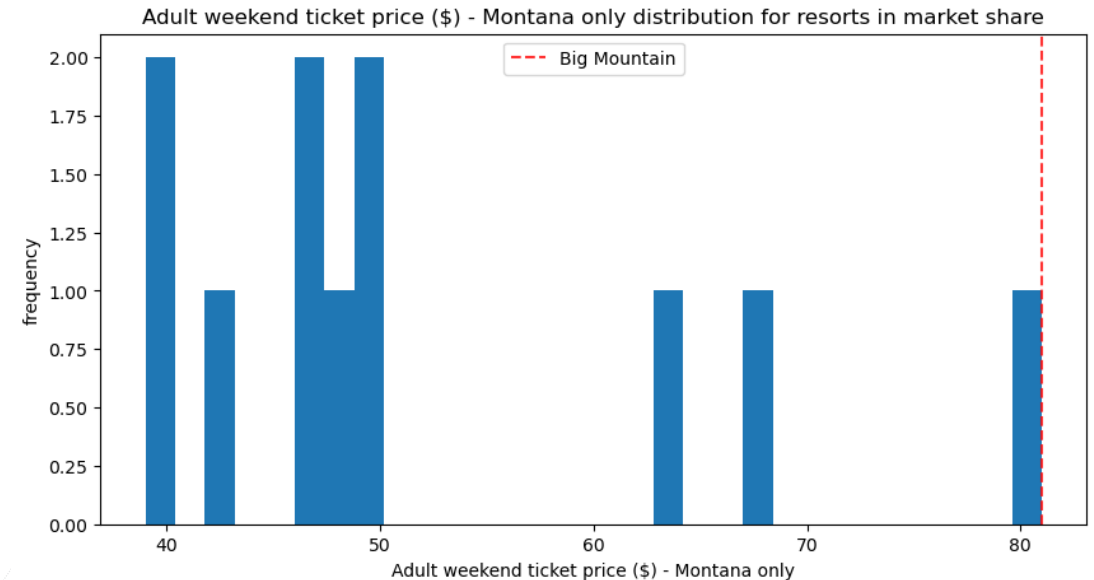
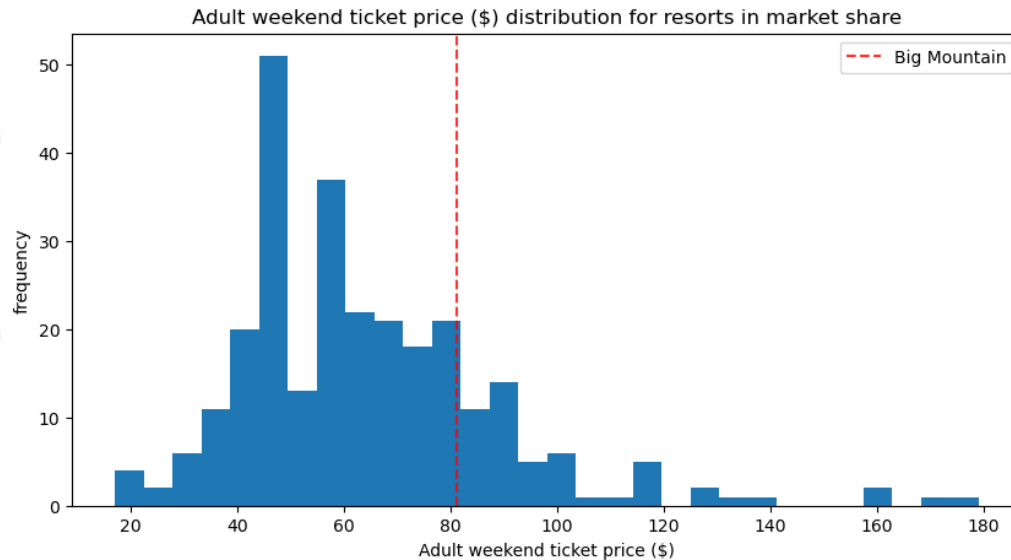


# Scenarios 2-4: Increase vertical drop, but no additional snow making coverage needed

7

Scenario	Predicted impact on ticket price
Increase vertical drop by 150 feet by adding 1 run and a chair lift to support it	+ \$1.99
Above scenario plus 2 acres of snow making coverage	+ \$1.99
Increase longest run by 0.2 miles, adding 4 acres snow making coverage to support	\$0.00

# Big Mountain ticket price is towards the middle of resorts nationwide but at the higher end of Montana resorts





# Conclusions

- Closing runs impacts ticket price, but it is not a linear relationship. Closing 1 run is expected to have no impact on ticket price.
- Increasing the vertical drop is expected to support a higher ticket price, regardless of whether snow making coverage is increased.
- The distribution of ticket prices in Montana looks quite different from that nationwide. Further characterization of resort visitors may help clarify the degree to which Big Mountain Resort can bridge that gap.