



# Big Mountain Resort Recommendations

Pricing and Potential Facility Changes



# Agenda

- ❑ Problem Identification
- ❑ Recommendations & Key Findings
- ❑ Modeling Results
- ❑ Analysis
- ❑ Summary & Conclusion



# Problem Identification

- How can Big Mountain Resort increase revenue for next season?
  - ◆ Change pricing strategy to develop a fair ticket price
    - Current strategy is to charge a premium above the average price of resorts in its market
    - Big Mountain is possibly not capitalizing on its facilities as much as it could
  - ◆ Consider changes that will cut costs or support an even higher ticket price
    - Remove facilities that do not add enough value to the ticket price
    - Add facilities that will support an increase to ticket price



# Recommendations & Key Findings

- Big Mountain should increase the ticket price to \$85.48 for next season
  - ◆ \$0.88 of the increase will go to support the operating costs of the additional lift
  - ◆ The remainder of the increase, \$3.60, will go towards charging the visitors for the facilities Big Mountain offers
  - ◆ This will be a conservative increase and should not upset the regular visitors
- Big Mountain should consider making the following changes to their facilities:
  - ◆ Closing down the least used run
  - ◆ Increase the vertical drop by adding a run to a point 150 feet lower down, this will require the installation of an additional chair lift
- The following elements were the most important in predicting the ticket price based on the selected model:
  - ◆ Number of fast four person chairs
  - ◆ Number of Runs in resort
  - ◆ Total area covered by snow making machines
  - ◆ Vertical change in elevation from the summit to the base



# Modeling Results

- The pricing model used to predict Big Mountain's ticket price is a random forest model.
  - ◆ This model was more accurate and had less variability when compared to the linear model.
- The modeled price for Big Mountain is \$95.87.
  - ◆ The model's predicted price, on average, is expected to be within \$10.39 of a resort's actual price based on all the data used from the other US resorts
  - ◆ A critical assumption in the model is that other resorts are accurately setting their prices according to what the market supports
- To be conservative, I recommend to set next season's ticket price to \$85.48
  - ◆ I believe Big Mountain should reevaluate their ticket price yearly to ensure they are charging a fair price for the facilities they offer
  - ◆ Big Mountain should not increase their price to the predicted price of the model
  - ◆ Big Mountain should monitor the expected number of visitors and tickets sold for next season to see if the price increase had a significant impact on expected ticket sales



# Analysis

- In the random forest model the following features were most important in predicting the ticket price:
  - ◆ The number of fast four person chairs
    - Most resorts have none and Big Mountain has 3. There are resorts with more but it is rare.
  - ◆ The number of runs on the resort
    - Big Mountain is doing well in its number of runs. Some resorts have more but not many.
  - ◆ Total area covered by snow making machines
    - Big Mountain is among the resorts with the largest amount of skiable terrain.
  - ◆ Vertical change in elevation from the summit to the base
    - Big Mountain is doing well for vertical change but there are quite a few resorts with a greater drop. I recommend Big Mountain considers increasing the vertical change.
- These features were also important in the linear regression model.



## Analysis (continued)

- I modeled the following 4 potential scenarios Big Mountain is reviewing to either cut costs or increase revenue:
- ◆ Permanently closing down up to 10 of the least used runs
    - I recommend at least closing down 1 of the least used runs because it didn't change the predicted ticket price.
    - I would also consider closing down 5 or 8 of the least used runs depending on how much operating costs is saved by closing these runs. Closing 3-4 and 6-7 runs would yield a similar ticket price when compared to 5 and 8, respectively.
  - ◆ 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
    - I would recommend this change if the operating cost of the additional lift per ticket is less than \$1.99 because this change supports an increase in ticket price of \$1.99
  - ◆ Same as the bullet above , but adding 2 acres of snow making cover
    - I would not recommend this change as it supports the same increase in ticket price as above
  - ◆ Increase the longest run by 0.2 mile to boast 3.5 miles length, requiring an additional snow making coverage of 4 acres
    - I would not recommend this change as it did not support an increase to ticket price



# Summary & Conclusion

- I recommend increasing the ticket price to \$84.58
  - ◆ The model supports an increase to Big Mountain's ticket price to \$95.87
  - ◆ Compared to other resorts, Big Mountain is doing well for the four features classified as important from the model
    - The one feature Big Mountain can improve on to be more competitive is the vertical drop offered
- From the potential changes Big Mountain is considering, I recommend closing the least used run and adding 150 ft to the vertical drop
  - ◆ Closing more runs might be appropriate but I would need to know the operating costs to determine the optimal amount of runs Big Mountain should close to maximize profits
- Considerations for future:
  - ◆ Key data points that could help build a better model is the expected visitor counts and operating costs of each resort