

Big Mountain Ticket Pricing

Imagine improving the bottom line, having the funds to pay off debt ahead of schedule, giving meaningful raises and/or expanding operations. With an appropriate increase in ticket prices, supported by our analysis, Big Mountain could soon make any of these a reality.

The management team knew it was probably leaving money on the table, so our group was challenged to find a better method for calculating ticket price. Our goal was to find the price that reflects the true value of the Big Mountain resort experience as it compares to what other resorts can offer.

The Data and Early Analysis

We started with a list of 330 resorts within the US, each with stats on 20+ resort features. Big Mountain was included in the data set. State-specific information was pulled from another source, analyzed, and some added to our master data. Resorts for all states were included in our analysis, with some Montana-based resort comparisons included in summary modeling. Weekend price was found to be more relevant than Weekday price for higher priced resorts, so we eliminated Weekday pricing from our file. After cleaning up the data, we ended with 276 resorts for our analysis, excluding Big Mountain.

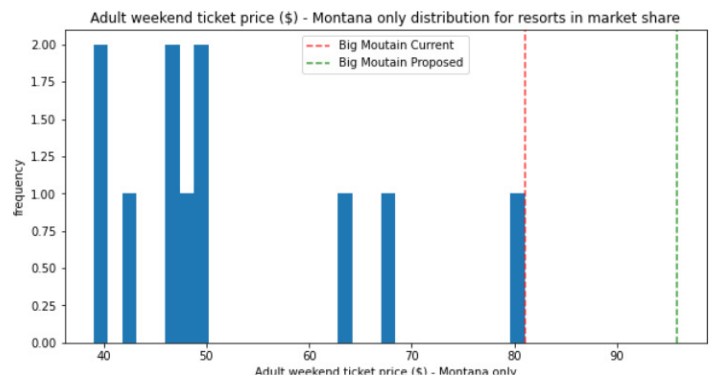
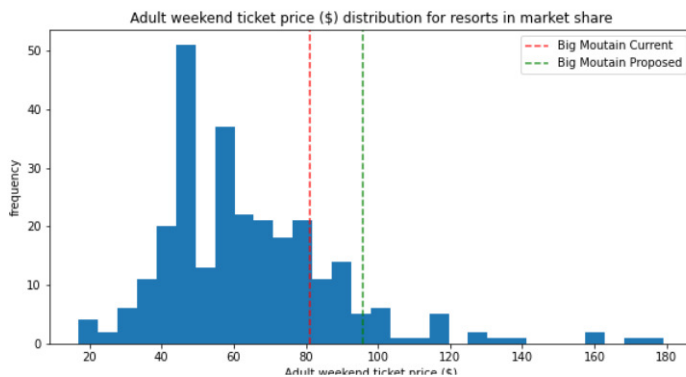
Finding a Model

For use with training various models so that they could be checked for best fit, the data was split 70/30 to produce a training data set and a test data set. Each model's performance was assessed using cross-validation. A **Random Forest model** had the best results, but still had a possible \$10 margin of error. During several stages of our analysis, from exploration to training, the same resort features, as named in the data file, came up repeatedly as important:

- vertical_drop
- Snow Making_ac
- total_chairs
- fastQuads
- Runs
- LongestRun_mi
- trams
- SkiableTerrain_ac

How Big Mountain stacks up against other resorts in these areas is interesting and should be noted by management. These features have the greatest influence on resort ticket prices and should be used as support for pricing decisions going forward.

Model Results



This would generate a \$26 million increase in annual revenue if attendance and length of stay went

unchanged. The \$96 price would be \$29 higher than any other resort in Montana. Big Mountain is currently \$14 more than Montana's next highest priced resort, so this would double the price gap.

All modeling is based on 350k visitors with an average stay of 5 days. Since we don't have data on in-state and out-of-state visitors, it's difficult to know how the price increase might impact visitor count. Big Mountain wouldn't want to price itself out of the Montana market if a large share of its visitors came from within the state.

Recommendation: A Scaled Approach

Perhaps a scaled approach to increasing ticket price would be best. Using the possible margin of error as a guide, management would set the ticket price to \$91 in Year 1. This is calculated by taking the modeled price of \$96 and reducing it by half of the margin of error (\$10.39 divided by 2), rounded.

Big Mountain would start collecting in-state, out-of-state data on visitors and use this information to assess the market's response in Year 1. Then the price could be increased further in Year 2 or Year 3 based on market conditions.

Model on Scenarios

The model is also useful for the scenarios brought forward by the management team. The following chart summarizes the revenue impact for each scenario:

Option	Revenue Increase/(Decrease)	Change in Tix Price (\$)
Closing runs: 1-2*	no material impact	no change
3-5	\$(1.2)M	\$(0.67)
6-8	\$(2.2)M	\$(1.26)
9-10	\$(3.0) to \$(3.2)M	\$(1.71) to \$(1.81)
Increasing vertical drop, adding run, chair lift	\$15.1M	\$8.61
Increasing vertical drop, adding run, chair lift + 2 acres of snow making	\$17.3M	\$9.90
Increasing longest run by 0.2 miles, adding 4 acres of snow making	no change	no change

Based on 350k visitors, 5-day visit

The resort feature changes mentioned above can be applied in conjunction with the ticket price increase. For example, using the recommended approach and the scenario for increase vertical drop, adding a run, chair lift and 2 acres of snow making produces a ticket price of \$100.90.

In Summary

We hope management find these results encouraging and convincing. The data clearly supports a price increase and illustrates how Big Mountain stands out amongst its peers. May any decisions made henceforth improve its position in the market and look to further excite returning visitors and impress new ones in the years ahead.