

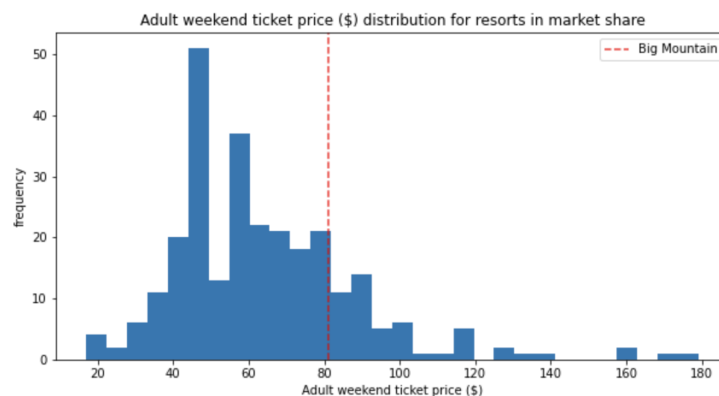
Big Mountain Resort Report

Business aligned goal

The hypothesis I formed in the problem statement for this report was “What opportunities exist for Big Mountain Resort to increase the revenue of all ticket prices by 10% through focusing on feature pricing premium tickets by an additional 5% of the closest company to benchmark and lowering costs of ticket prices by 5% with less access to features within this season”. To answer that question I performed a detailed data analysis while building a model for deployment.

Summarized Findings

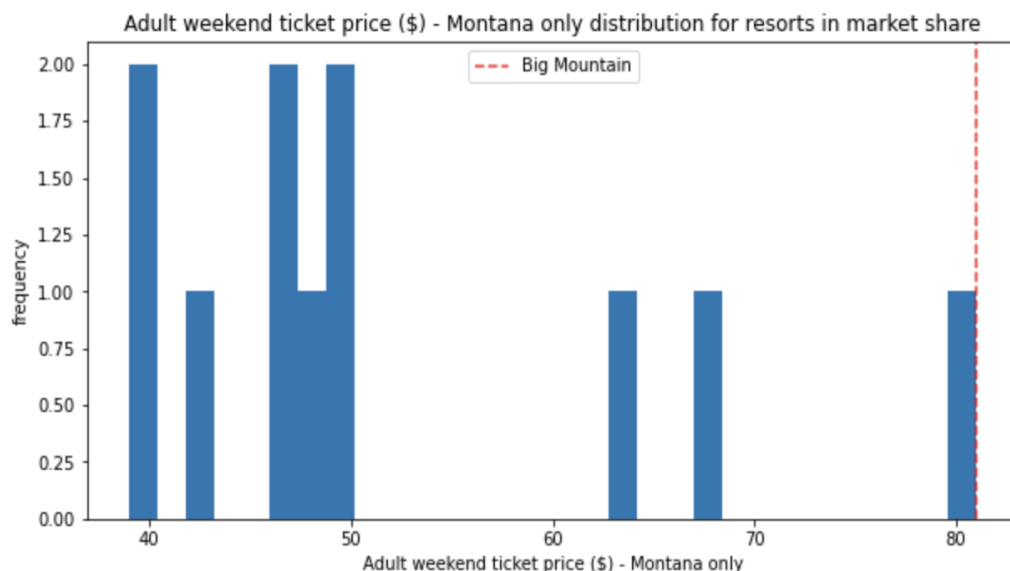
Big Mountain Resort's current position/actual price for a weekend ticket is 81.00 dollars. Alternatively, when Big Mountain Resort was modelled the price was 95.87 dollars. With the expected mean absolute error or MAE of 10.39, the increase in price was aligned with the original goal of discovering how Big Mountain Resort could optimize their price point. It is clear there is definitely room for a higher price or they are underutilizing their potential price point by undercharging for ticket prices.



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Model

The defining assumption for the model is that other resorts are benchmarks for the market (or ticket-buying public) that sets the scope for the model. There are also other constrictions/assumptions that could be considered or that the model does not assume like fair market practices and actual pricing of value at each resort. The model shows the expected number of visitors over the season was 350,000 and, on average, visitors ski for five days. The provided data includes the additional chair lift that Big Mountain recently installed. Based on the additional operating cost of the new chair lift per ticket (on the basis of each visitor at 350,000 on average buying 5 day tickets), the model supports an increase for ticket price by 1.99 dollars over the season. This could mean that approximately 3,474,638 per season would help with operational costs and revenue for the new chair lift.



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Recommendations

Based on aligned business goals previously established with Big Mountain Resort, a few options are recommended. All scenarios include either cutting costs or increasing revenue (from ticket prices). Since ticket price is not determined by any set of parameters the resort is free to set whatever price it likes. However, the current market strongly suggests that customers pay more for certain facilities, and less for others given the value they believe to be purchasing. This model represents competitors and their rationale for a given ticket price while creating benchmarks for Big Mountain Resort to not only measure their current pricing but predict future pricing.

*Four potential scenarios that can be represented using our model is the following:

1. Permanently closing down up to 10 of the least used runs. Does not 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

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Potential deployment and maintenance

For future improvements, I recommend running a linear regression model because it is simple but also leads to similar reliability as Random Forests models when it comes to this data.

Testing can also be used by attempting to shut down certain features of the Big Mountain Resort during downtimes or weekends to observe how accurate model results are to actual results.

