

Guided Capstone Project Presentation

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Big Mountain Pricing Analysis

This exercise was initiated to find opportunities for Big Mountain to increase revenue and/or decrease operating costs for the upcoming season.

Questions to address

- What amenities drive value for customers?
- How does Big Mountain's pricing reflect the current amenities?
- Where should Big Mountain focus efforts to increase revenue and customer satisfaction?



Recommendations and Key Findings

Big Mountain provides good value for the price

Recommendation: Increase ticket prices by \$9

Close infrequently used runs

Recommendation: Close 2-3 of the least used runs and monitor the impact. If no negative impact, close 2-3 more infrequently used runs.

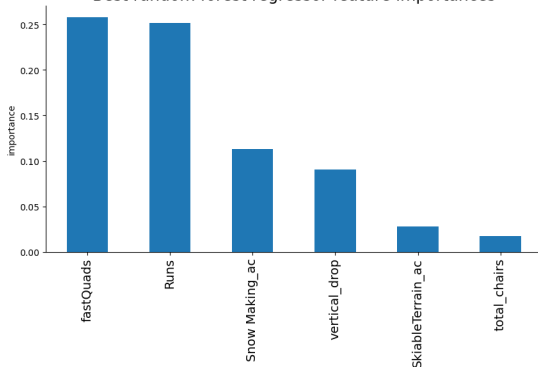
Vertical Drop is a value driver

Recommendation: If there are positive outcomes from the first two recommendations, add a new lift to support a run with increased vertical drop.



Modeling Results: Value drivers

Best random forest regressor feature importances



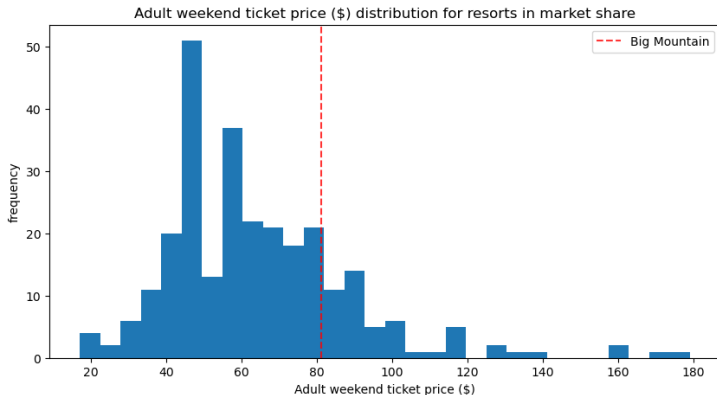
Top 5 features:

- Fast Quads
- Runs
- Snowmaking
- Vertical Drop
- Snow Making Coverage
- Total Chairs

Note: There was overlap in important features with the other model that was generated, lending some support to these features driving value.



Modeling Results: Current Pricing Levels

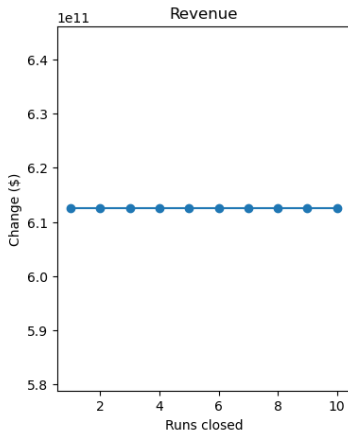
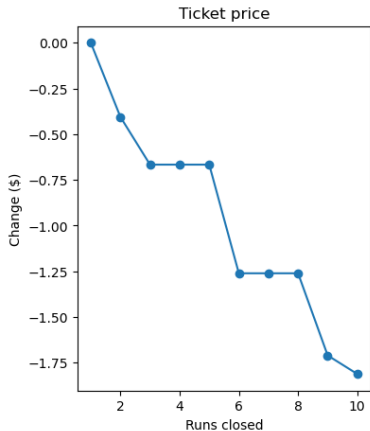


Big Mountain
is the most
expensive
resort in
Montana.

The selected model identified **\$95.87** as the target price (the current price of \$81). The model has a mean error of $\pm \$10.39$. The recommendation of a price of **\$90** seems a good balance capturing value and taking the model error into account.



Modeling Results: Run Closures

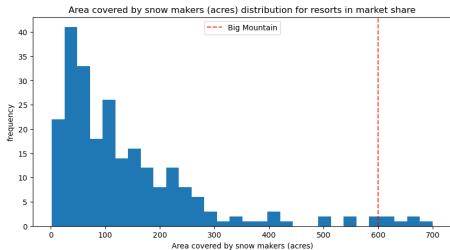


The impact of closing a small number of infrequently used runs is negligible and within the margin of error of the model. Starting with closing a few runs initial helps tests the validity of the model.

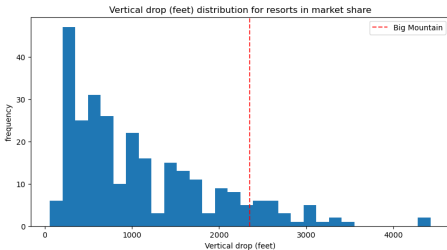


Modeling Results: Increasing Vertical Drop

While snow making capacity is a driver of value, Big Mountain is already near the top of all resorts. Vertical Drop is also a strong value driver, and an area where Big Mountain can improve.



(a) Ski making capacity



(b) Vertical Drop

Modeling suggests that increasing vertical drop and adding a lift to support this can support a **\$1.99** ticket increase, leading to greater than \$3.4M in additional revenue.



Summary and Conclusions

- Big Mountain could likely increase ticket prices with no changes to amenities.
 - ▶ Closing the least used runs could provide additional cost savings.
- Upgrading the Vertical Drop could also drive additional revenue

Caveats

- This is a preliminary model
 - ▶ The mean error is +/- \$10
 - ▶ How some of the features interact is not intuitive or well understood
- Testing the model with reversible changes is a good first step.
- Obtaining additional data may also be useful
 - ▶ Demographics of Big Mountain customers (particularly local vs visitor)
 - ▶ Annual customers at other resorts

