Slope of the Curve and the Curve of our Slopes

A Data-Driven Look at Big Mountain Resort Revenue

Problem Identification

Big Mountain Resort needs to operate under data-driven insights for future facility development.

Management is driven to:

- Justify its ticketing sales revenue using an evidentiary approach.
- Examine concerns that we are not capitalizing on facilities usage.
- Leverage model-based insights into business decisions that require large capital expenditures.

Problem Identification

Management proposed four scenarios for the Data Sciences team to make recommendations on:

1. Scenario one examines the option of permanently closing down up to 10 of the least used runs. This doesn't impact any other resort statistics.
2. The second scenario looks at the effect of increasing 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. Scenario three is the same as above (scenario two), but adding 2 acres of snow making cover.
4. The fourth scenario stated an increase of our longest run (Hellfire) by 0.2 mile to boast a new length of 3.5 miles length, plus the requirement of additional snow making coverage of 4 acres.

Recommendation and key findings

Big Mountain Resort currently charges $81.00 for a single adult ticket per day. This is on the upper end of all resorts that were examined as part of its nationwide market competitors, and the highest ticket price for all resorts in Montana.

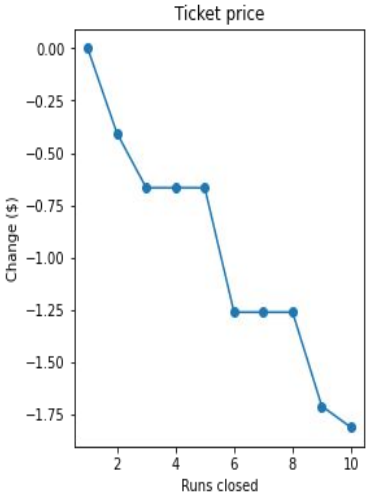
Big Mountain Resort's predicted price from the selected model is $95.87 +/- $10.39 (a range of $85.48 - $106.26), suggesting a minimum increase of approximately $15.00 could be supported.

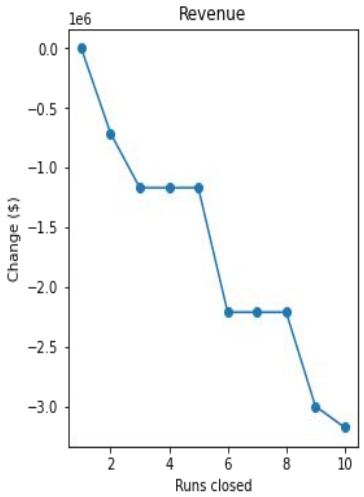
The model identifies these key features as discriminators;

- The number of Fast Quad lifts
- The number of runs
- The ability to produce snow (in acres)
- The maximum vertical drop of a run
- The total number of chair lifts available
- The longest run (in miles)
- The total acreage of skiable terrain

Modeling results and analysis

Scenario one examines the option of permanently closing down up to 10 of the least used runs. This doesn't impact any other resort statistics. To evaluate this, we ran the model for price predictions of closing up to ten runs:





Number of closed runs	Effect on ticket price
1	No effect
2	-$0.40
3-5	-$0.67
6-8	-$1.26
9	-$1.71
10	-$1.81

Modeling results and analysis

Scenario two looks at the effect of:

- increasing the vertical drop by adding a run to a point 150 feet lower down
- requiring the installation of an additional chair lift to bring skiers back up
- no additional snow making coverage.

Running predictions on this scenario found an increased support for ticket price by $1.99 (or a total revenue increase of $3,474,638 annually).

Modeling results and analysis

Scenario three is similar to scenario two:

- increasing the vertical drop by adding a run to a point 150 feet lower down
- requiring the installation of an additional chair lift to bring skiers back up
- adding 2 acres of snow making cover

We found no support for snow making. That is to say, the predictions were the same as for scenario two.

Modeling results and analysis

The final scenario looks at

- an increase of our longest run (Hellfire) by 0.2 mile to boast a new length of 3.5 miles length
- the requirement of additional snow making coverage of 4 acres.

Our model predicted zero support for ticket price adjustment.

Summary and conclusion

The business now has data to back the implementation of the changes:

- Raising adult ticket sales to a suggested a suggested increase of approximately $15.00 could be supported.
- closing one run (perhaps an unpopular or particularly expensive to maintain one) has no effect on ticket pricing, and will save on operational costs
- Scenario two (increasing the vertical drop by 150 feet, and installing an additional chair lift) will support an additional $1.99 on ticket prices, or $3,474,638 in annual revenue.