Predicting ticket price at Big Mountain Ski Resort

Springboard Data Science - Career Track
Guided Capstone - Final Presentation
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Background

Problem

How much could ticket prices at Big Mountain Ski Resort be raised this season, to accommodate a $1.54 mil increase in operating costs, while still staying competitive with other ski resorts in the same market?

What are the most important features when determining ticket price for a ski resort?

Model - Testing and Selection

Model	MAE mean	MAE std
Linear Regression	10.49	1.62
Random Forest Regressor	9.65	1.34

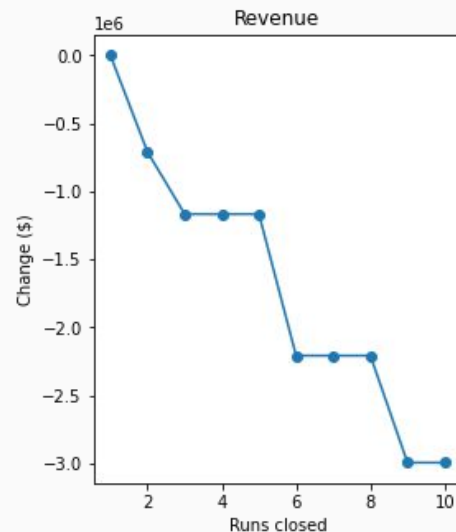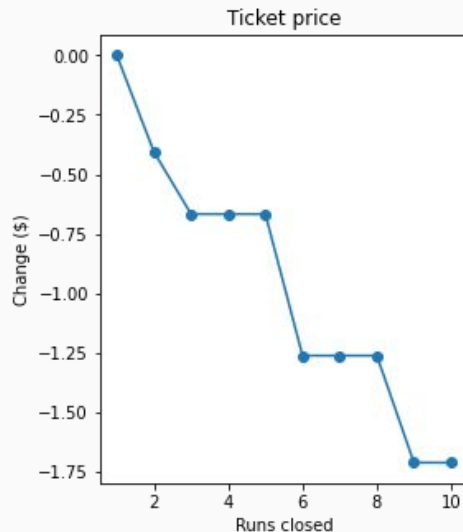| Model	Best Parameters
Random Forest Regressor	n_estimators = 69 Missing value fill strategy = median Scaling = none

Model - Feature Importance

Best random forest regressor feature importances
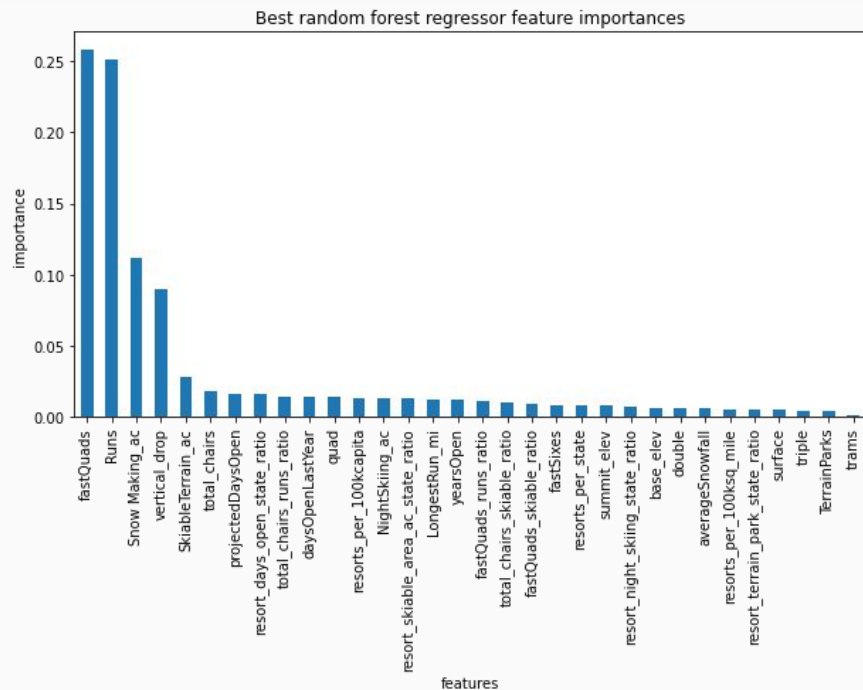
Recommendations - Scenario 1

Close up to 10 of the least used runs:

Recommendations - Scenario 2

Add a run, increasing the vertical drop by 150 feet and install an additional chair lift:

Support for ticket price:	+ $1.99
Total revenue increase:	+ $3474638

Recommendations - Scenario 3

Scenario 2 + add 2 acres of snow making:

Support for ticket price:	+ $1.99
Total revenue increase:	+ $3474638

Recommendations - Scenario 4

Increase longest run by 0.2 miles, will also need to add 4 acres of snow making to accommodate:

Support for ticket price:	+ $0
Total revenue increase:	+ $0

Conclusion

Price prediction for Big Mountain Ski Resort (current facilities):

- $94.22 (MAE $10.39)

Recommendation

- Scenario 2 (increase vertical drop by 150 feet, add chair lift)

Questions