Big Mountain Resort Ticket Pricing

Problem Identification

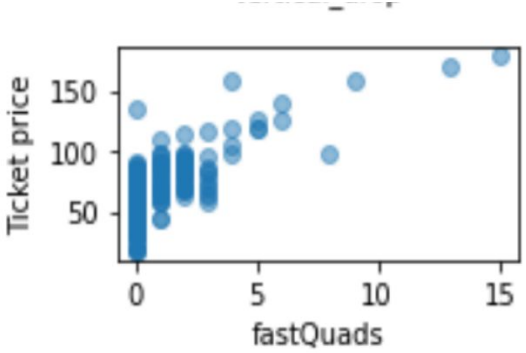
Context: Recently an additional chair lift was added, increasing operational costs by $1.54M. In return, this will allow us to increase ticket prices.

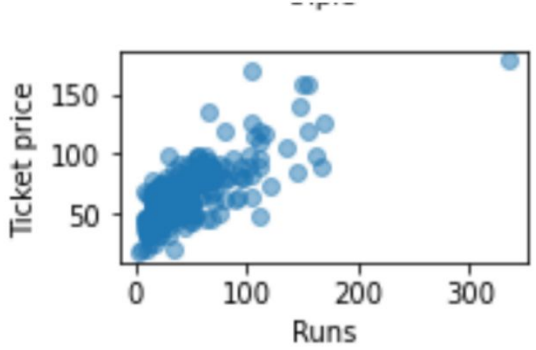
Goal: Increase next season’s revenues by 10% by implementing changes that will allow us to increase ticket prices

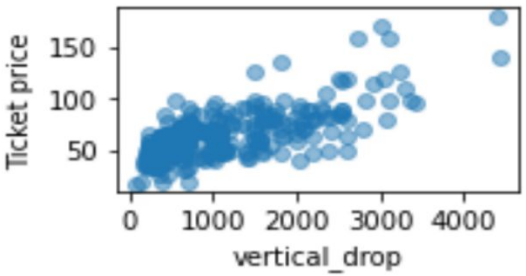
Recommendation & Key Findings

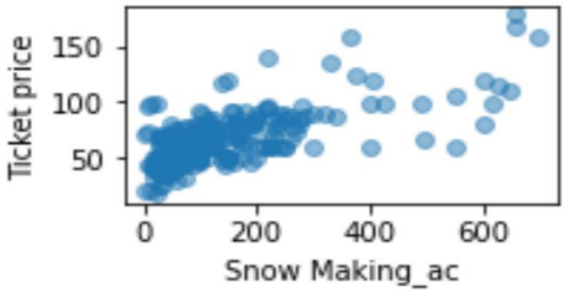
1. We excel in features that customers value such as:
    a. Vertical drop
    b. Snow making
    c. Number of runs
    d. Number of fast quads
2. This means that we can charge $95.87 per ticket instead of the current price of $81.00 (predicted by ML model)

Modeling results & analysis









The four features that positively impact ticket prices are:

- fast quads
- runs
- vertical drop
- snow making

Modeling results & analysis

Two different ML models were tried:

1. Linear regression
2. Random forest regressor

It's shown that the random forest regressor fits our data better. Thus, the next analysis will be done based on this regression model's results.

	Mean Absolute Error	R^2
Linear Regression	9.2	0.63
Random Forest Regressor	8.3	0.7

Modelling results & analysis

Findings with Random Forest Regressor:

1. Based on our current facilities, we can charge a ticket price of $95.87
2. Adding another run and increasing vertical drop by 150ft can increase revenues by $3.47M
3. Operational cost of our additional chair lift is $1.54M
4. This means that we are making positive net profit from the chair lift

Summary & Conclusion

1. We can charge $95.87 per ticket as opposed to our current $81.00
2. If we add another run and increase vertical drop by 150ft, we can increase revenues by $3.47M
3. We have a regression model that will project ticket prices if we were to update our facilities