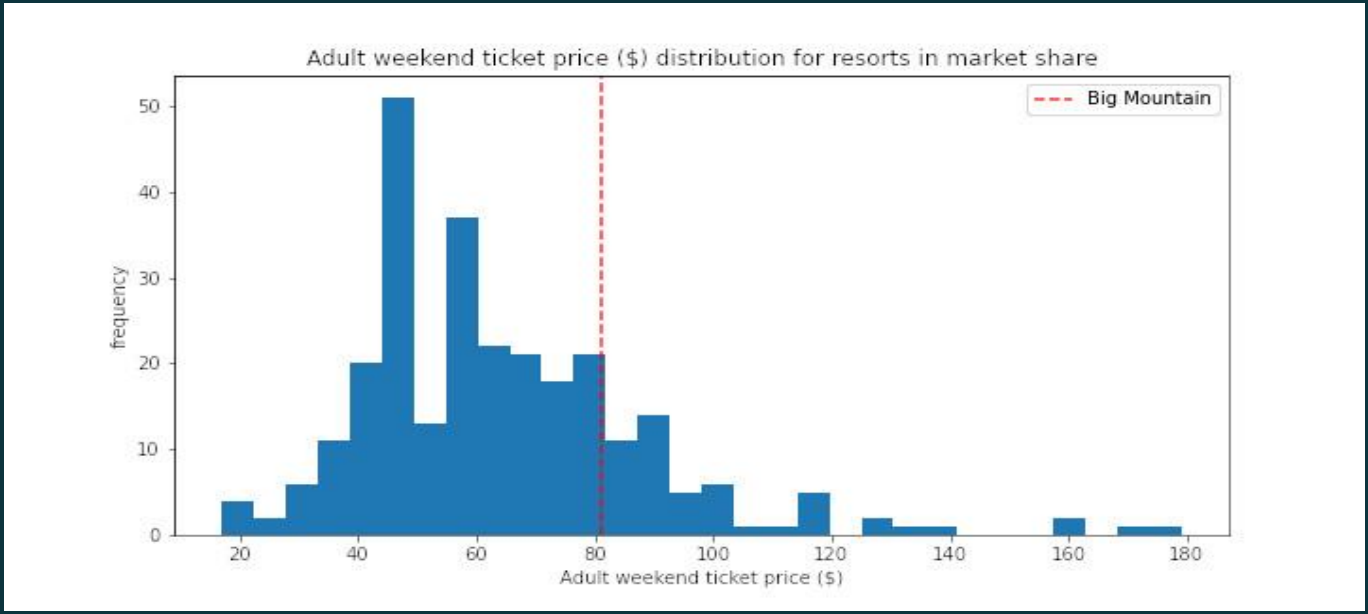
Big Mountain Resort Pricing Exploration

- ML applications for price modeling
- Cost analysis of expansion

1: Is our resort priced correctly?



Graph of national prices: Big Mountain current price show as $81

2: Revenue increase or cost decrease measures

A. Reduce number of runs

B. Increase vertical drop, add a run, and a lift

C. Same as B, but add snowmaking area

D. Increase longest run, add snowmaking area

Recommendation

Big Mountain is underpriced relative to the national market.

Further exploration:

1. Cutting between 1-5 runs only affects ticket price negatively between 0 to .66 dollars.
2. Additionally, adding a run, chair and a 150” increase in vertical drop is associated with a $2 ticket price increase and a projected annual profit increase of approx 3.5 million.

Modeling:

Linear Regression:

- Error rate of about $12
- Poor cross validation scores (poor generalization)

Random Forest:

- Error rate of about $9.5
- Better cross validation scores (better generalization)

Modeling: Important Features

Fast Quads

Total Runs

Total Lifts

Snow-Making Area

Vertical Drop

Skiable Area

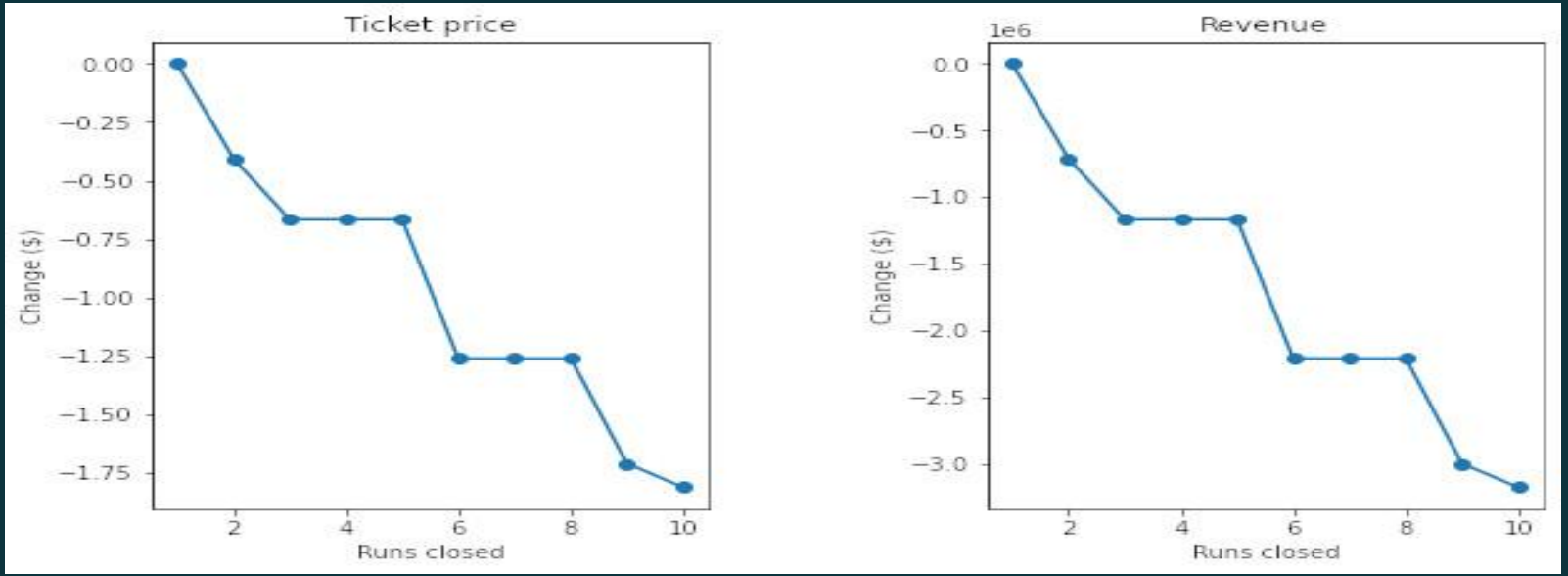
Predictions

Current Resort Price: $81.00

Predicted Resort Price: $95.87

Predicted Price with error: 86.37 -> 105.37

Cost Reduction: Reducing Runs



Reducing number of runs: Change in ticket price

Moving Forward:

- Assess cost saving with operating cost info

- Build a price-modeling dashboard for employees