BIG MOUNTAIN RESORT MARKET-BASED PRICING STRATEGY

John Baselj - Springboard

PROBLEM IDENTIFICATION

- How can Big Mountain Resort increase revenue by optimizing their ticket pricing strategy competitively against other comparable US ski resorts?
- How can Big Mountain optimize their investment in facilities to generate additional revenue?

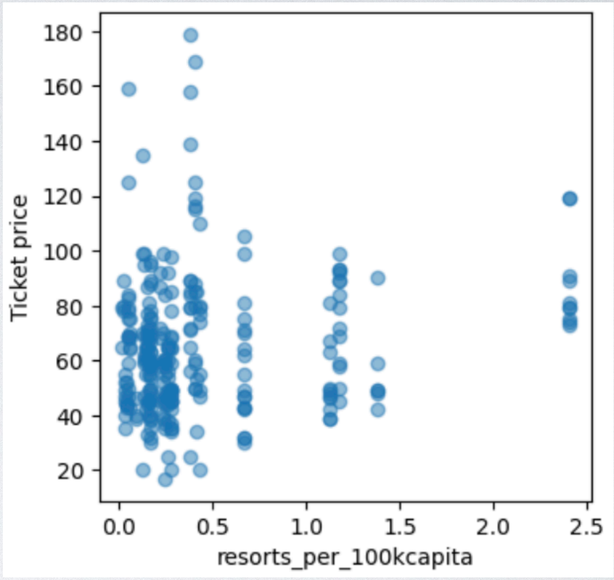
RECOMMENDATION AND KEY FINDINGS

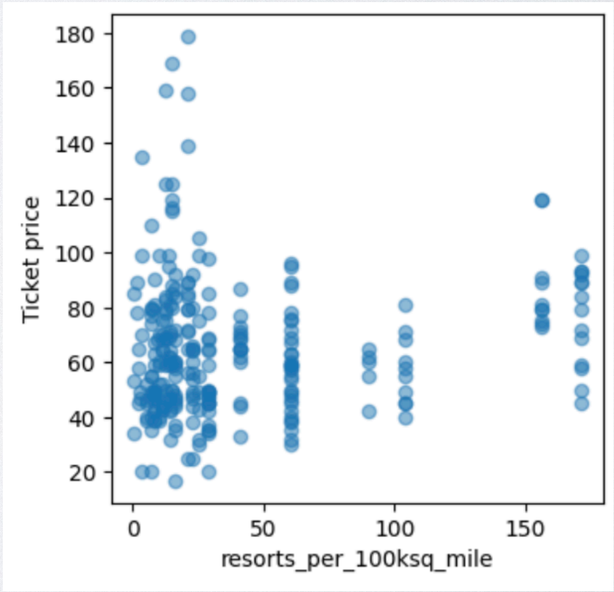
- Big Mountain Resort could increase the price of their weekend lift ticket from $81.00 to about $92.83 and remain competitive against other US resorts, translating to an estimated $20MM in annual revenue increase.

- Adding runs, quad lifts, and snowmaking capacity may be some of the most cost effective investments in facilities upgrades to drive revenue.

DATA EXPLORATION

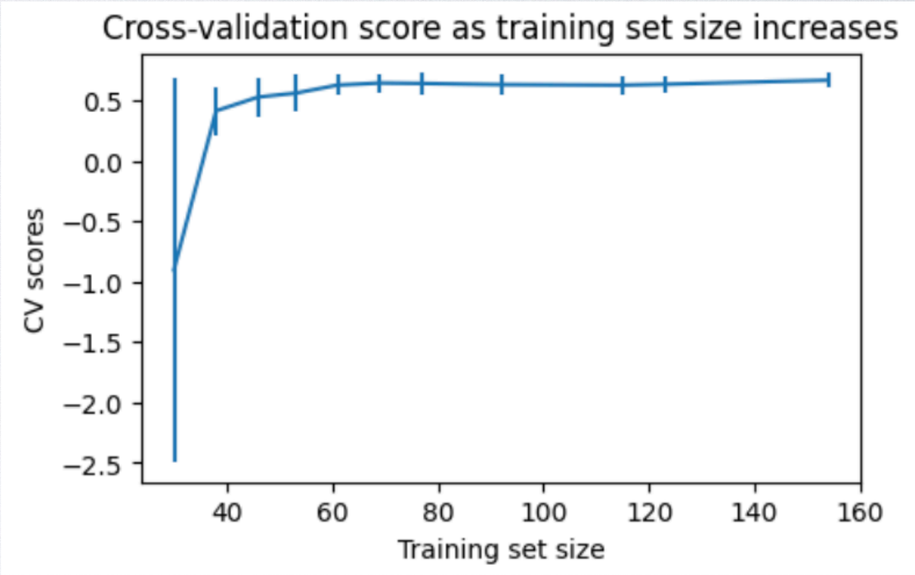
- Resort prices were found to be independent of state factors, such as population density and resort density.
    - The data set containing information about resorts from all over the US was selected to be used for generating a predictive model
- Resort prices correlate most closely with number of runs, fast quad lifts, and snowmaking ability.





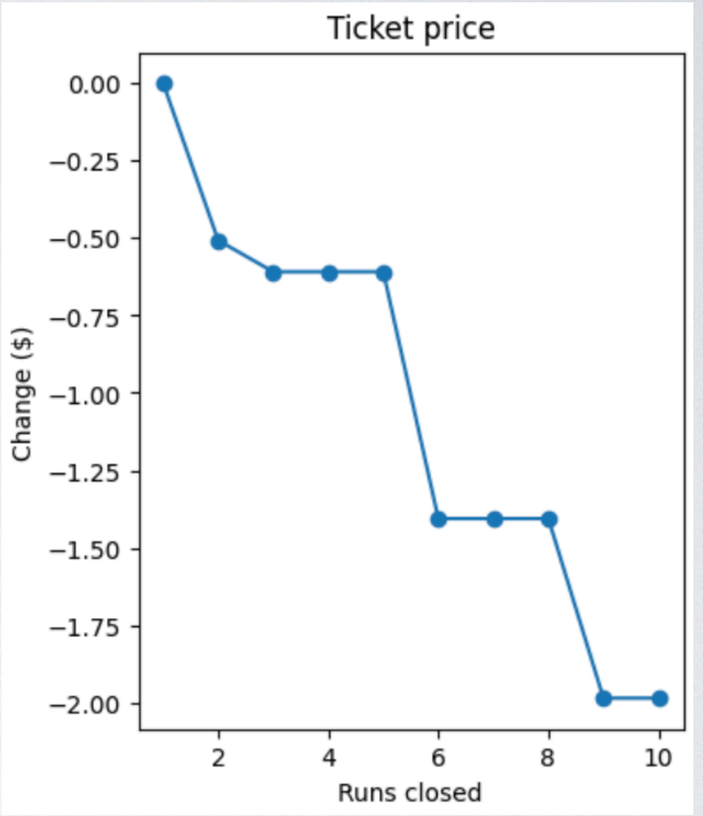
ML MODEL DEVELOPMENT

- Three models were trained on a majority subset of the ski resort data: a "control" model that always predicts the population mean, a linear regression model, and a random forest model.
- The models were compared using cross validation, and the most accurate proved to be the random forest model with a mean absolute error of about $9.50, and standard deviation of about $1.35
- The cross validation scores for models built on different size data sets were compared and verified that this sample of about 275 resorts was enough data to accurately model for resort ticket price, and therefore further data collection on these parameters is unneeded



MODEL DEPLOYMENT

- In addition to applying the model to predict the value of a lift ticket at Big Mountain considering current facilities, it was also used to evaluate the projected impact on revenue of several facility upgrades:



1. Closing 1 run would not result in a price decrease, closing 2-3 would decrease price significantly, but if at least 3 are closed then closing a 4th or 5th would not harm price.
2. The scenario of adding 1 run, increasing vertical drop by 150 feet, and adding a chair would bring an increase in revenue of about $17MM. This could be a strong investment to suggest for leaders to evaluate against the cost of these upgrades.
3. Adding snowmaking to the added terrain in scenario 2 does not lead to an increased prediction for revenue.
4. It is not expected that increasing the length of the longest run will add revenue

SUMMARY AND CONCLUSION

- A new ticket price of about $92.83 would allow Big Mountain to stay market-competitive and generate roughly $20MM in additional seasonal revenue
- Adding one additional run to increase vertical drop by 150 feet, and add a chairlift would bring a predicted increase in revenue of about $17MM. This is a strong investment option to evaluate against the cost of these upgrades.
- The model constructed for this evaluation may be used to estimate the revenue impact of future renovations, however be wary that it is trained on time-snapshot of data and will not update with changing market conditions