
Big Mountain Ski Resort

insights and
recommendations

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Agenda

01 Problem Identification

02 Recommendations and key findings

03 Modeling results and analysis

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01 Problem Identification

Big Mountain Resort offers access to 105 trails, spectacular views of Glacier National Park and Flathead National Forest, and hosts about 350,000 visitors each year. The resort has remarkable facilities, including a newly installed additional chair lift.

What opportunities exist for the resort to make the most of their current facilities, set the best possible ticket prices, ensure that new investments pay off, and plan for a profitable future?



Goals:

Set ticket price:

- Compare Big Mountain to other resorts as far as features and prices
- Determine a ticket price supported by this comparison and increase profits by the end of the season
- Increase profit by at least \$1.54 million annually to pay for the new chair lift
- Increase profit margin above the current 9.2% within the next year

Decrease costs:

- Examine whether there are areas the resort could cut any expenses without decreasing income

Best use of resort features:

- Identify the most profitable and least profitable resort features
- Plan for future changes at the resort

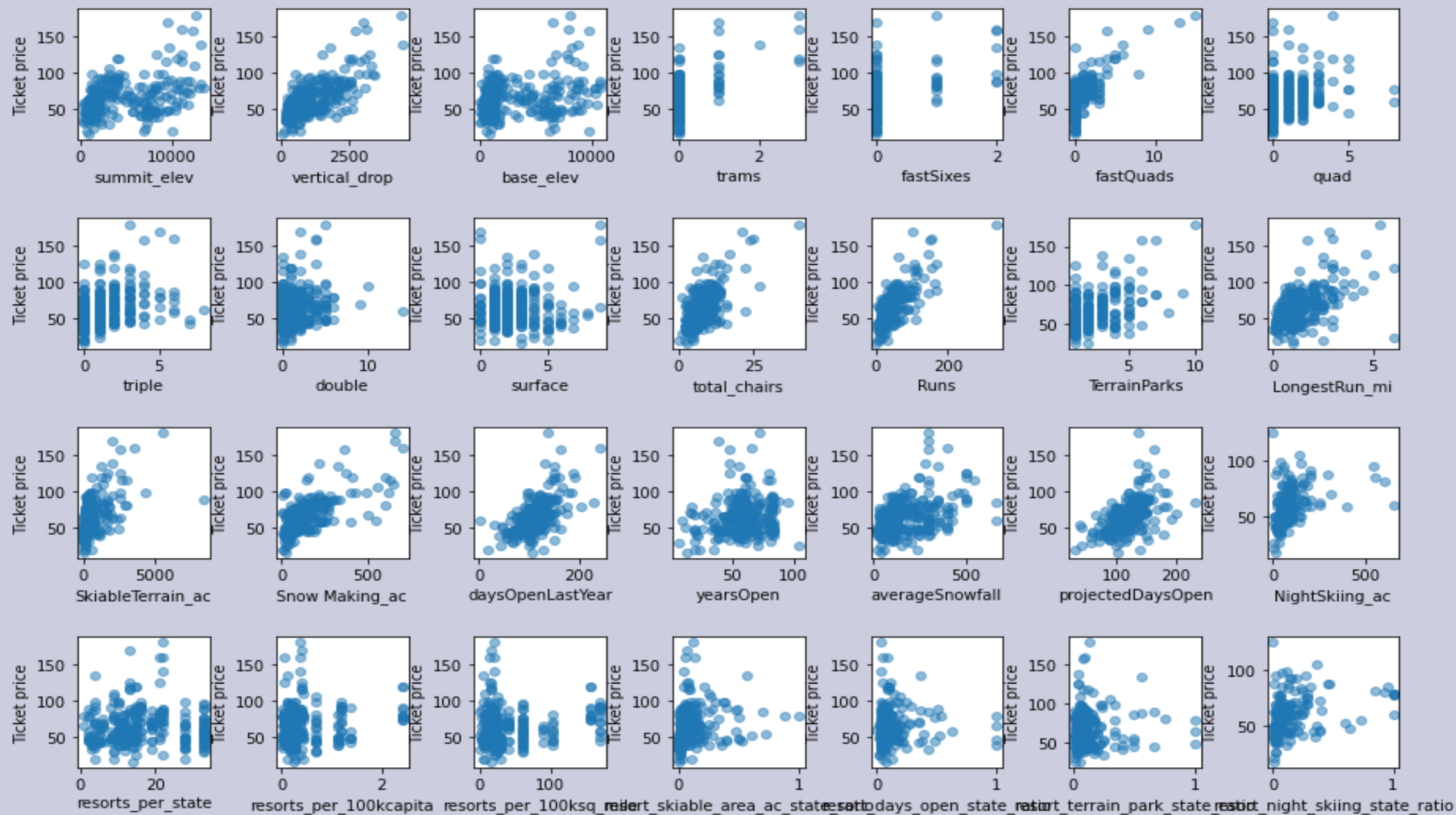
02

Key findings & Recommendations

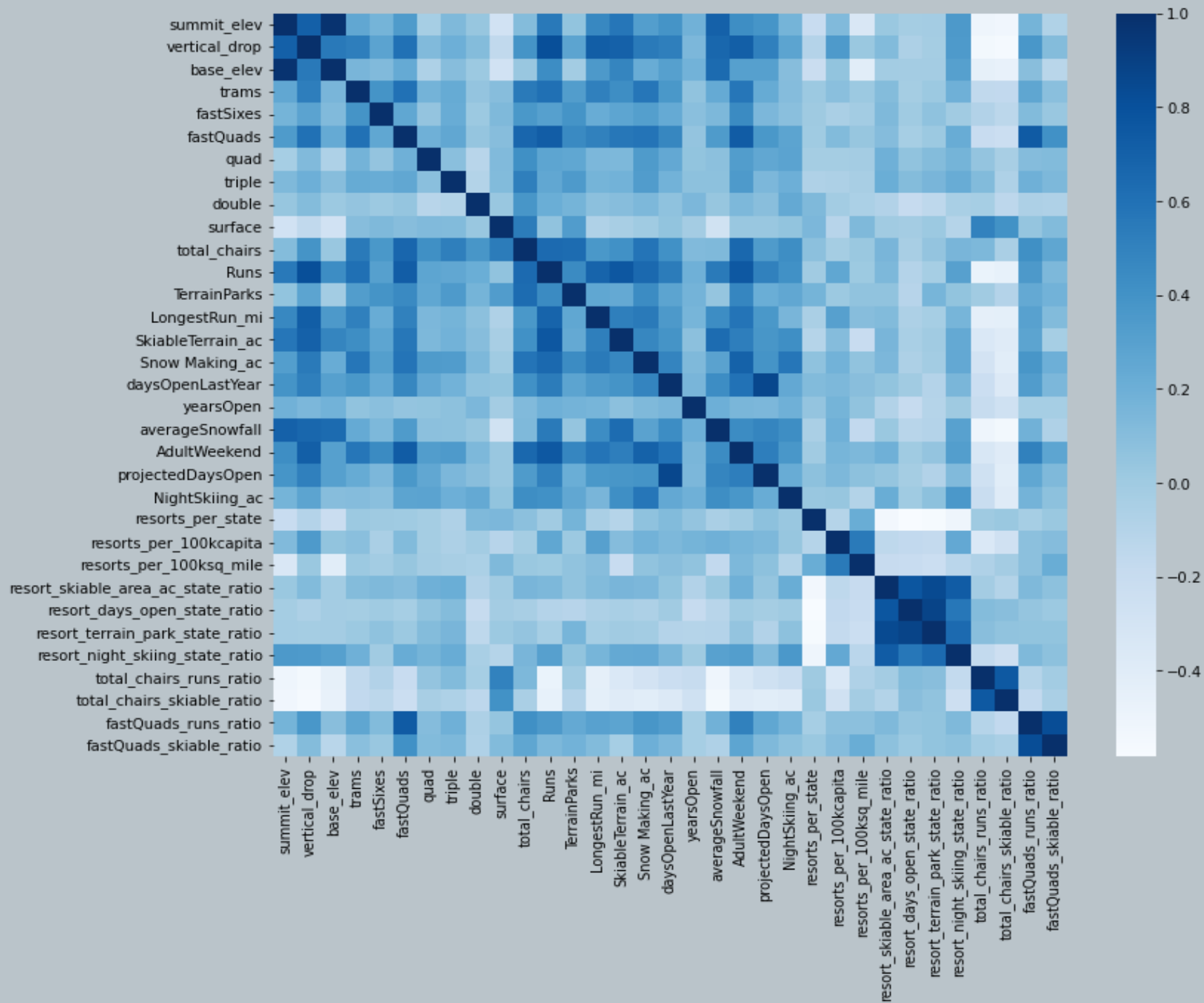
Recommendation:

increase ticket price to \$83

- Supported by the data
- Increases annual income by \$3,500,000
- Covers cost of the new chair lift
- And allows for new investments



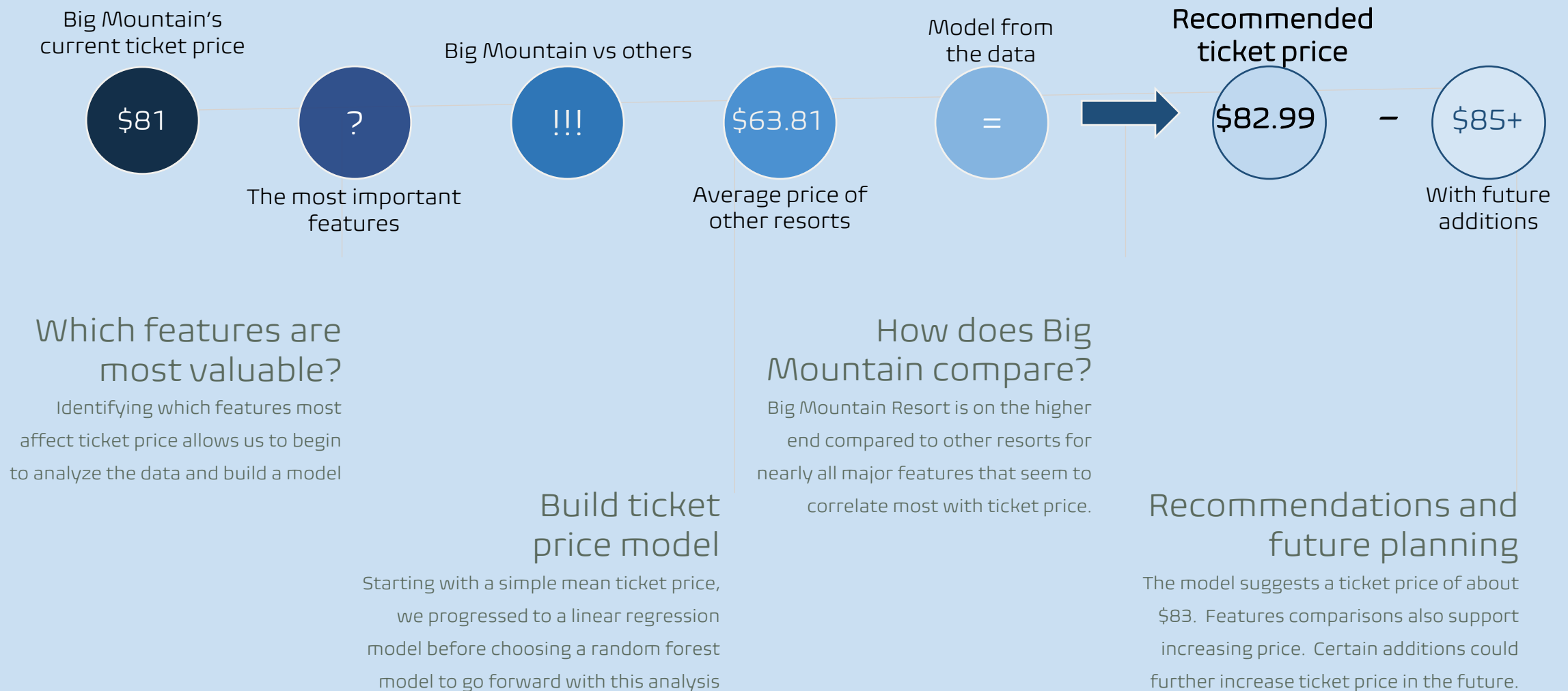
Possible correlations between various resort features and ticket price



03

Modeling results and analysis

The modeling process:



Pre-model: Using the mean to suggest ticket price

- Results: \$63.81 with an error margin of \$19
- This suggests that the ideal ticket price for a resort be somewhere between \$44.81 and \$82.81.
- A large range is not very useful.
- Does not reflect any features of individual resorts
- Provides a baseline against which to compare future models

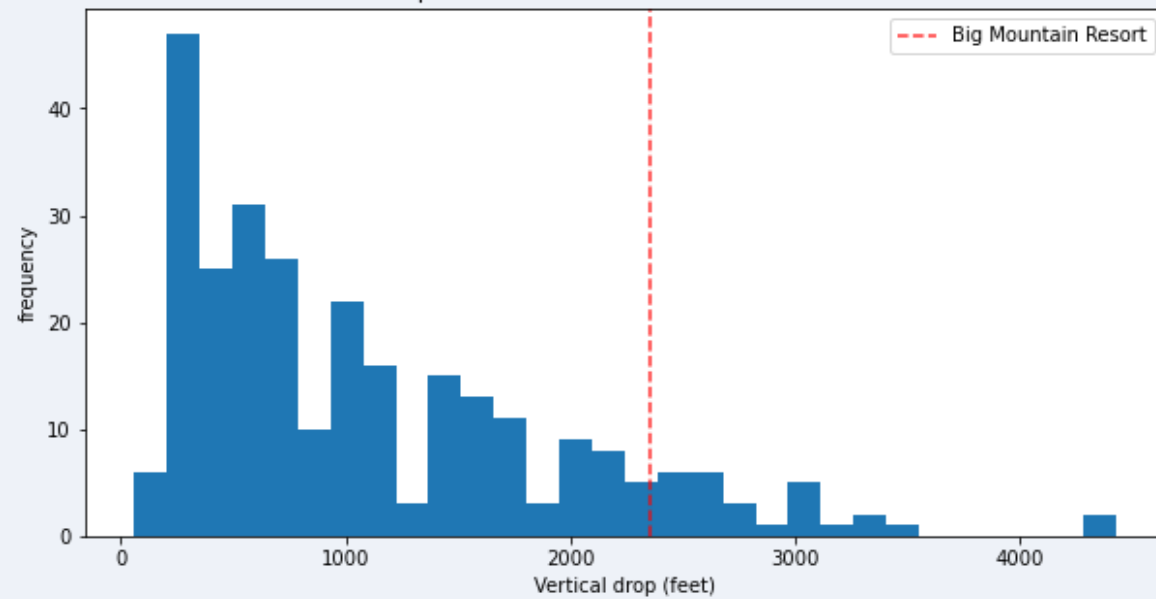
Model A: Linear Regression Model

- Lessens error compared to the mean from \$19-\$9
- A smaller range mean that this model is more useful than using the mean alone.
- Accounts for 70%-80% of variability
- This model also does not weigh each feature to give a detailed estimate,
and we will see that the next model shows less error and less variability.
- Highlights 4 most important features:
 - Distance of vertical drop
 - Snow-making acres
 - Number of fast quads
 - Number of runs

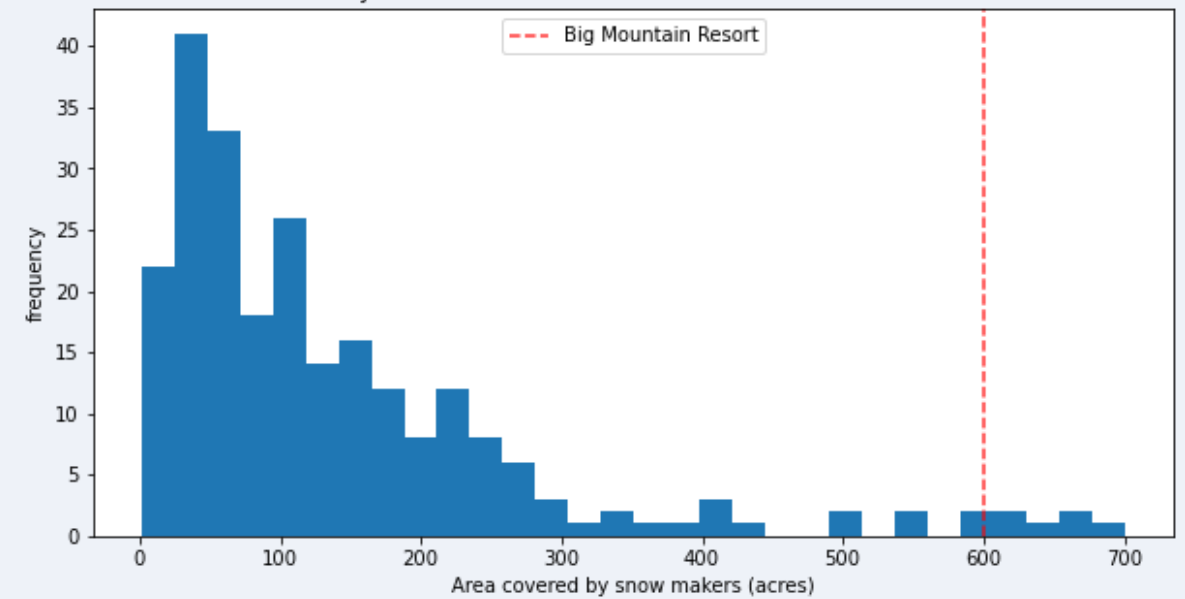
Model B: Random Forest Model

- Results: \$95.87 with an error margin of \$9
- This suggests that the ideal ticket price be between \$86.87 and \$104.87.
- Mean absolute error of \$9.53 (better than the linear regression model or the mean)
- A smaller range is more useful than any earlier methods.
- This model takes each resort feature into account to give a more detailed and accurate estimate.
- Highlights 4 most important features:
 - Number of fast quads
 - Number of runs
 - Snow-making acres
 - Distance of vertical drop

Vertical drop (feet) distribution for resorts in market share

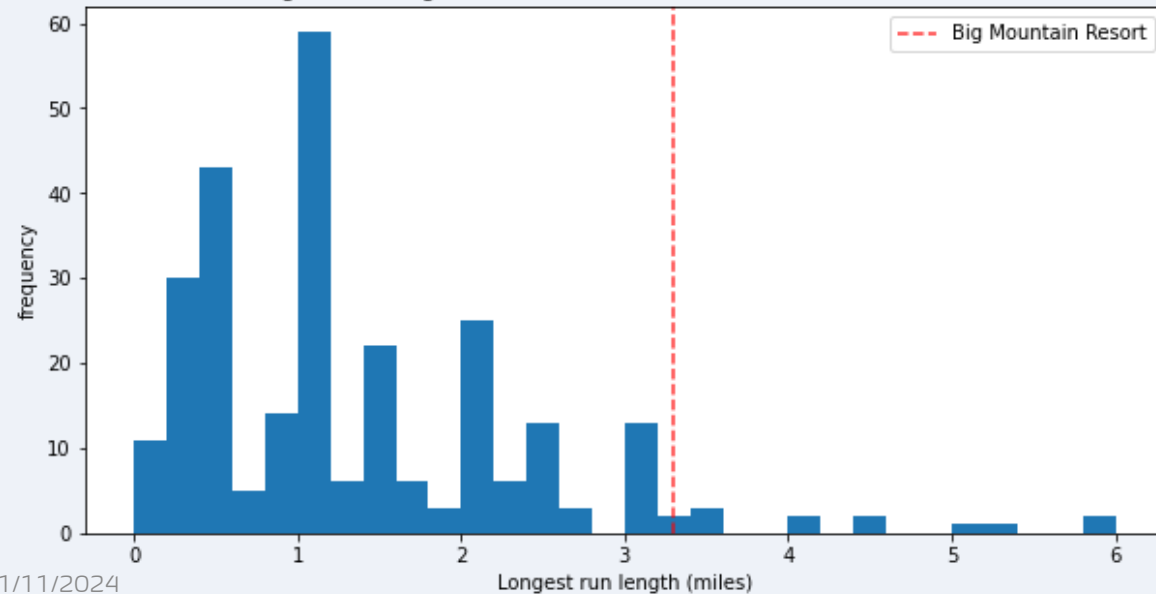


Area covered by snow makers (acres) distribution for resorts in market share

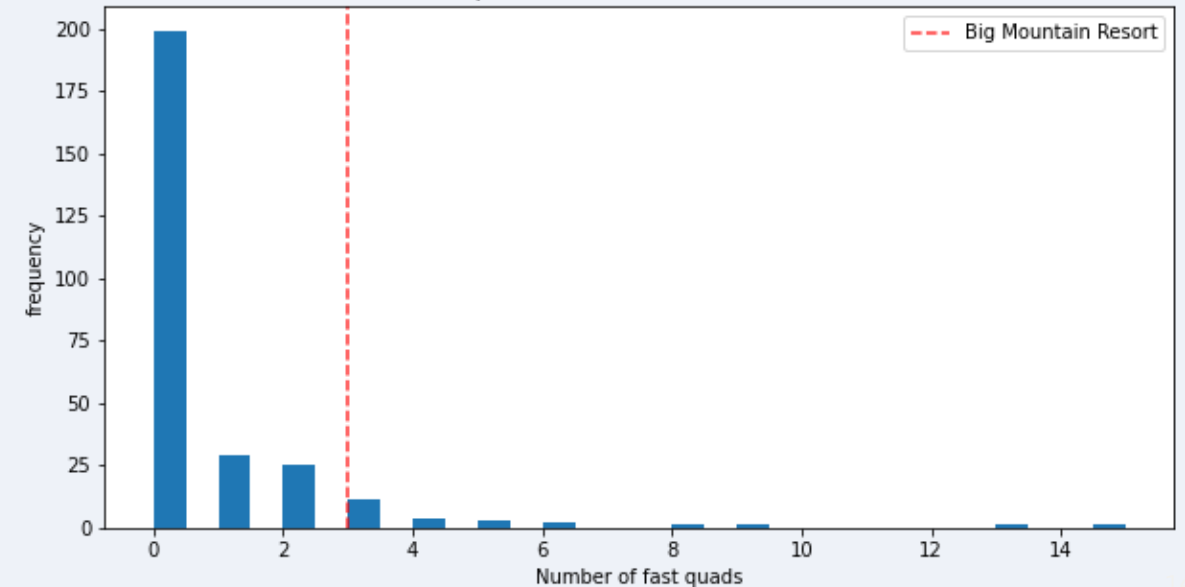


Four most important features: Big Mountain Resort in market context

Longest run length (miles) distribution for resorts in market share



Number of fast quads distribution for resorts in market share



04

Summary

Ticket prices should be raised

Big Mountain Resort offers more than most resorts in the market

Investing in certain features supports higher ticket prices

Even small ticket price increases greatly increase annual income

Increases in income can cover additional future investments

The future of the resort is profitable and supported by evidence

Future plans:



Improvements

- Add one additional run
- Increase vertical drop by 150 feet
- Additional new chair lift
- Would support additional ticket increase by \$1.99
- Annual income increase by \$3, 474, 000

Cutting costs?

- Up to one run could be closed without decreasing ticket cost
- More research is necessary to determine the affect of changes on resort budget

Use the model going forward

- Predict the effects of any feature change or addition
- Keep data up to date so the model reflects the current market
- Estimate ideal ticket price based on any changes at Big Mountain or changes in the market

Looking ahead...

Using the models and functions we have created, Big Mountain Resort can determine which features to invest in, how to adjust ticket prices accordingly, and how these changes could affect resort income. Using these data-supported strategies, the future of the resort will be exciting, expansive, and profitable.

