Big Mountain Resort

Marcelo Pereira

Oct/2021

Big Mountain Resort

Does Big Mountain Resort's price strategy support any increase to cover the maintenance expenses of a new chair lift? Increasing the ticket price by $2 yields a projected earnings enough to cover the new expense and to create extra revenue.

1. Context

- Big Mountain Resort (BMR) is a ski resort located in Montana with spectacular views of Glacier National Park and Flathead National Forest, with 105 trails. BMR has around 350K visitors yearly. Recently was installed a new chair, creating an additional operational cost of $1.5MM. We propose an increase of $2 for the ticket price to cover the operational cost of the new lift and generate extra revenue.

2. Criteria for success

- Cover the $1.5MM operational cost added by the new lift
- Keep the 350K visitors during the season
- Bonus: creation of extra revenue

3. Scope of solution space

- Increase the ticket price
- Maintain the regular facilities operations

4. Constraints within solution space

- Weather restrictions during the season (closed access roads, storms, snow precipitation below average)
- Competitors in the same area reducing their tickets to capture BMR clients

5. Stakeholders to provide key insight

- CEO, Sales VP, Marketing VP, CTO, Database Manager, Head of Data Science

6. Key data sources

- Data about the competitors in the market
- Revenue data
- Weather forecasting

Big Mountain
*R e s o r t*

Modeling

Data treatment

- Missing data imputation: median

- Training set:

  - 70%

- Testing set:

  - 30%

Models:

- Random forest best model
  - Average price prediction error in test set +/- $9.54 (best)
  - n_estimators = 54

- Linear regression best model
  - Average price prediction error in test set +/- $11.79
  - 8 features

- Dummy model – mean
  - Average price prediction error in test set +/- $19.13

Ski Resort features importance in the model

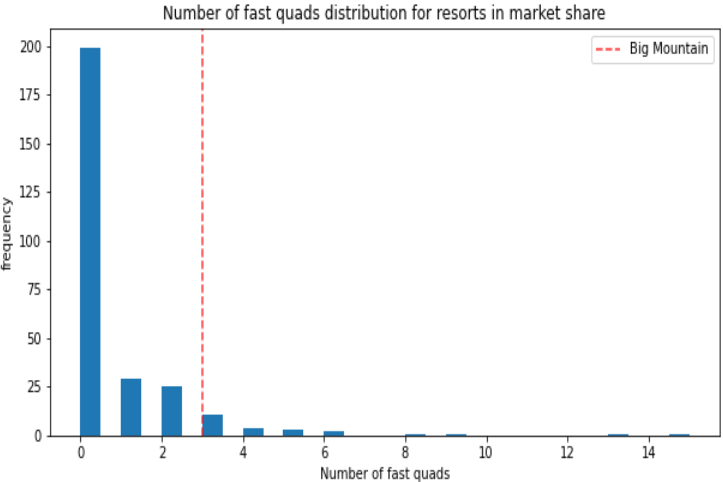Best random forest regressor feature importances
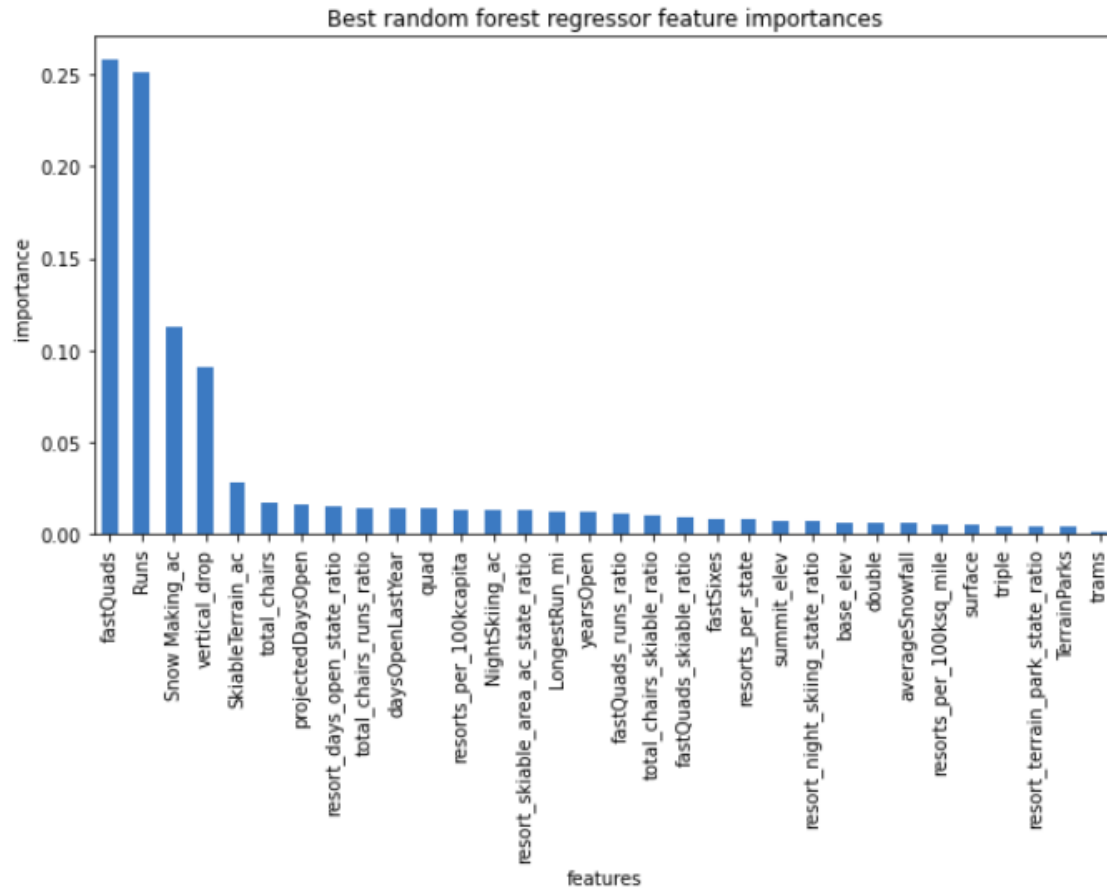
- Features used by the model to predict ticket price
  - fast quads
  - number of runs
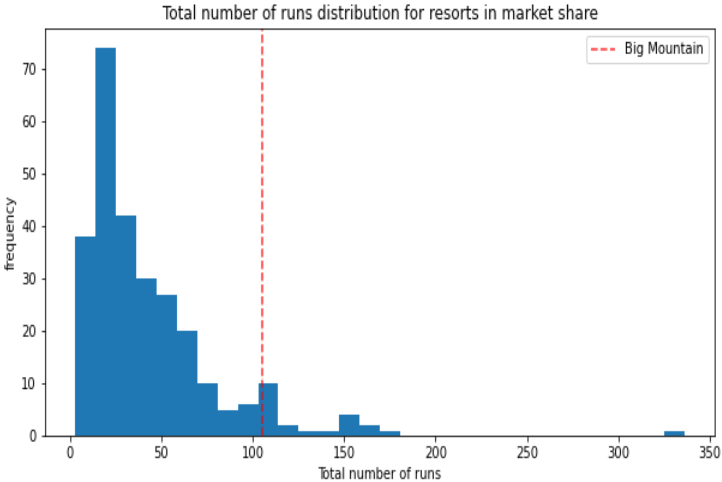 - snow making acres
  - vertical drop
  - skiable area

Big Mountain's features vs. competitors

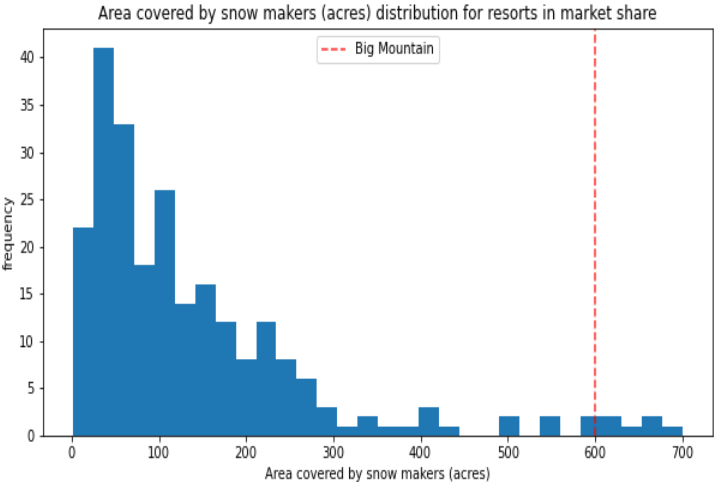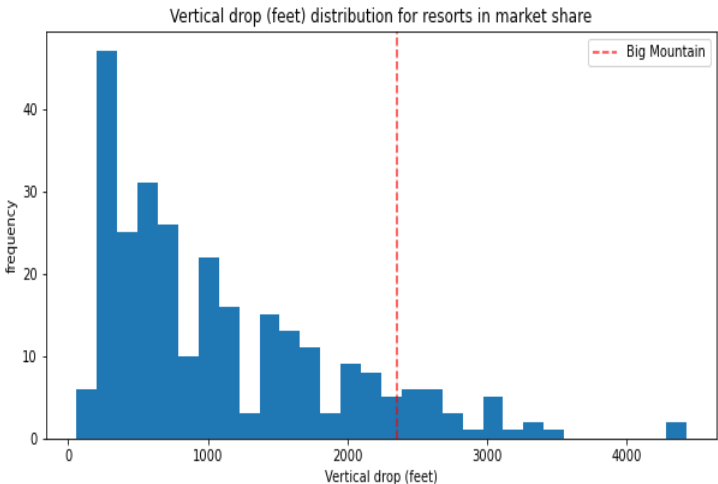Position of BMR compared to competitors for the relevant features of the model. Is feasible to charge more?

Scenarios simulation
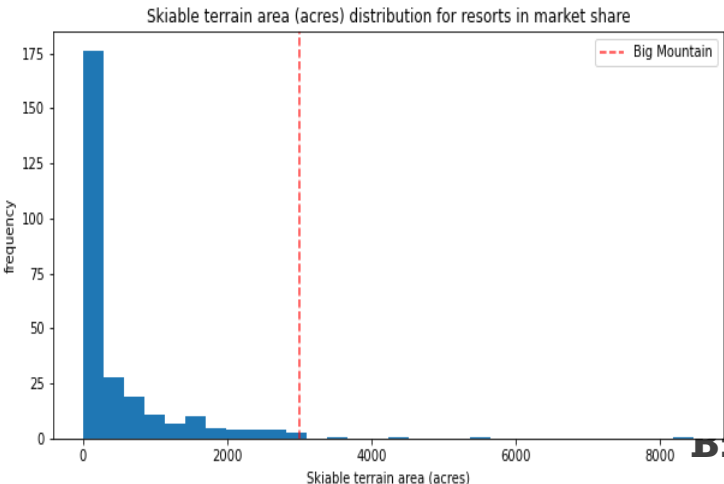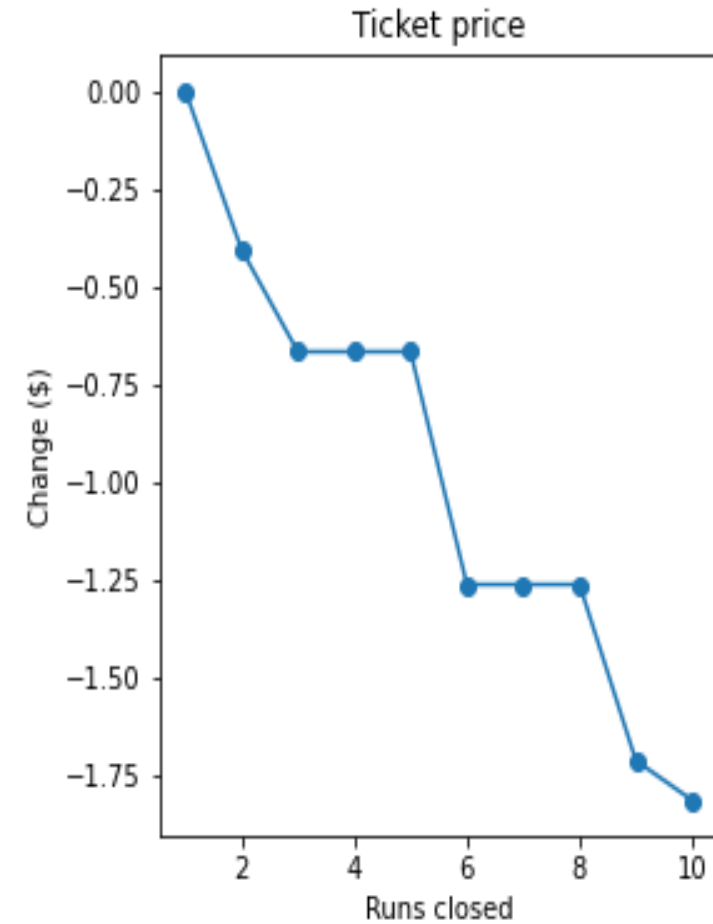
Evaluation of the impact of closing ski runs on ticket price

Ticket price change proposed by the model

- Closing 1 run
  - no change
- Closing 2 runs
  - < -$0.50
- Closing 3-5 runs plateaus
  - < -$0.75
- Closing 6-8 runs plateaus
  - < -$1.25

Ticket price

Big Mountain *Resort*

Summary and conclusion

An increase of the price from $81 to $96 is supported by the resort facilities configuration compare do competitors

Considerations

- Current price is $81, and the model suggests that a change of (+/- $10) will not affect ticket sales

- Ticket price of $96 is justified by BMR position in the key features for the price modeling

- New price generates $3.5M revenue, covering the $1.54M extra lift operation costs

Conclusion and alternatives

- Boost vertical drop by 150ft
  - Allows an additional $1.99/ticket value

- Increasing longest run length is revenue
  - Neutral by model
  - Requires additional snowmaking that does not add perceived market value and increases operational cost

- Closing 10 least-used runs reduces modeled
  - Drops ticket price by $1.81
  - It is possible to test this solution by closing some runs and evaluating the impact

- Current ticket price is undervalued, so increasing the ticket price is the expected decision

Big Mountain
R e s o r t

Contact:

Marcelo Pereira 👤

https://www.linkedin.com/in/marcelo-alves-pereira/ 🔗

map_fm@yahoo.com ✉

Big Mountain
R e s o r t