Big Mountain Resort Presentation

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Overview

- Problem Identification
- Recommendation and Key FIndings
- Modeling Results and Analysis
- Summary and Conclusion

Problem Identification

- Big Mountain believes it may not be maximizing returns, relative to its position in the market. There is also a belief that the resorts lacks clarity on what facilities matter most to visitors, particularly which features they'd be most likely to pay higher ticket prices for.

- **The goal is to derive a predictive pricing model for ski resort tickets in Big Mountain's market segment.** Ultimately, this model can be used by Big Mountain's leadership team for guidance on pricing and future facility investment plans

Recommendation and Key Findings

- There are two scenarios that we uncovered that could improve profitability for the resort:
  - **Scenario 1- Closing a lift.** This would increase profitability, as we could close one lift to reduce costs, while not having a negative effect on revenue.
  - **Scenario 2 - add a run, increase the vertical drop by 150 feet, and install an additional chair lift.**. These actions supported an increase in additional revenue of $4.1 million. We would however have to balance this against the cost of operating an additional lift.

- Implementing these actions has the potential to improve profitability for the resort based on our analysis

Modeling Results and Analysis

Overview of Analysis

- We explored a dataset with 27 features from 300+ resorts in the United States. The resorts varied broadly across characteristics like geography, size, and features offered at the resorts. We explored this dataset and applied a rigorous analysis to arrive at a model.

- Ultimately, we landed on using the price of a weekend ticket as the dependent variable for the analysis.

Modeling Results and Analysis (cont'd)

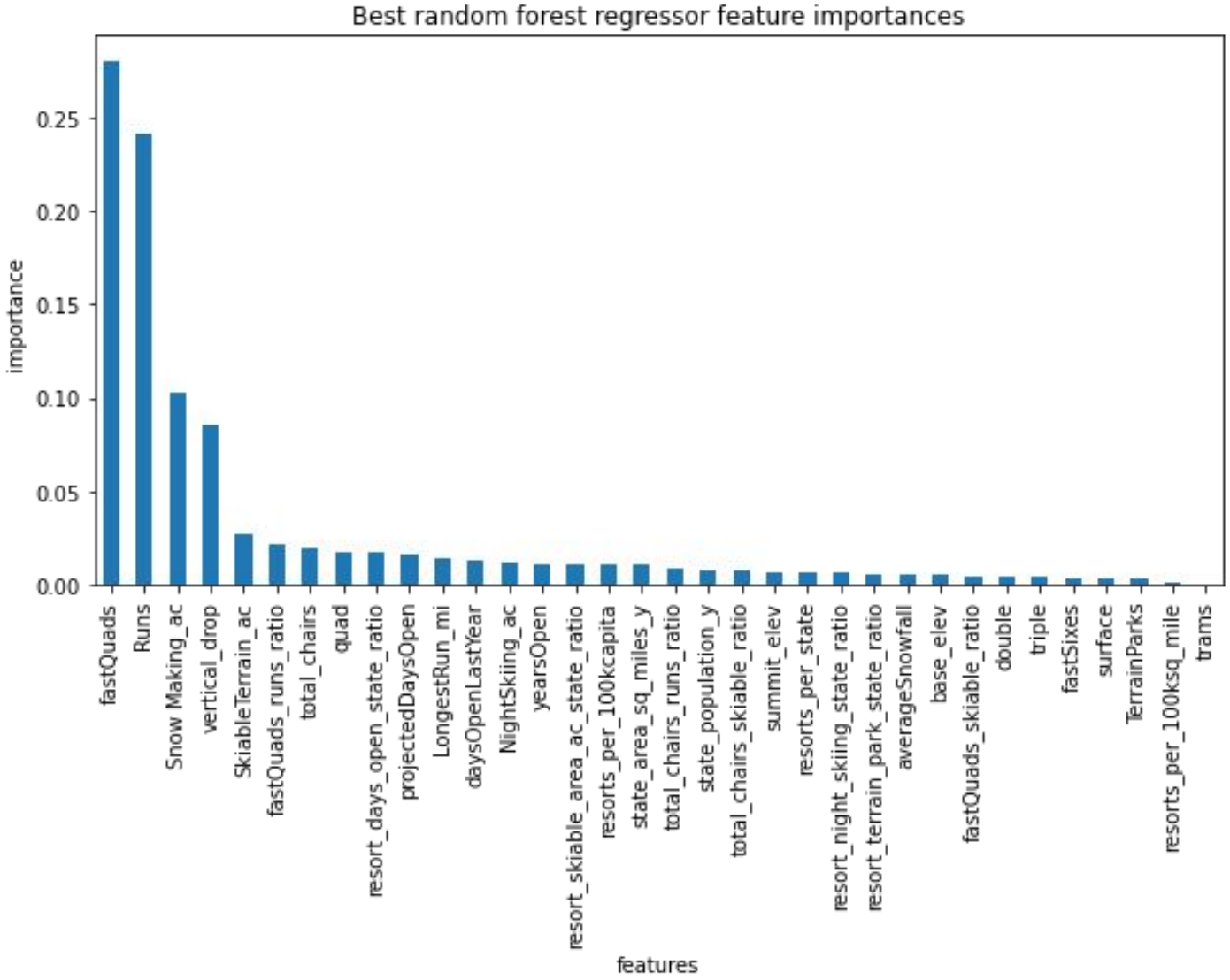
- Important features of resorts: four features in particular were important in both models: 1) fastQuads 2) Runs 3) Snow Making_ac 4) vertical_drop

- Ultimately, we landed on using the price of a weekend ticket as the dependent variable for the analysis.

- We tested two models and compared their efficacy: Random Forest and Linear Regression. We chose to employ the Random Forest model as it proved to be more effective.

Modeling Results and Analysis (cont'd)

- Feature importance for random forest



Modeling Results and Analysis (cont'd)

- Coefficients of variables for linear regression

vertical_drop	10.767857
Snow Making_ac	6.290074
total_chairs	5.794156
fastQuads	5.745626
Runs	5.370555
LongestRun_mi	0.181814
trams	-4.142024
SkiableTerrain_ac	-5.249780

Modeling Results and Analysis (cont'd)

Notable deficiencies in data / areas for further exploration

- Other means of generating revenue could potentially help here, for example paying for parking, concessions, rentals, daycare, lodging, to name a few. Increases in the number of visits would generate additional revenue based on these factors, which are beyond just ticket prices.

- The dataset also did not contain as much information on the cost side, so it would be beneficial to have information on additional costs incurred based on the revenue streams mentioned above, as well as personnel costs.

Summary and Conclusion

- We recommend pursuing two initiatives to improve profitability:
  - Closing a lift
  - Add a run, increase the vertical drop by 150 feet, and install an additional chair lift.

- Note that taking these actions is somewhat risky, as we could incur meaningful cost without certainly if they would pay off. We could mitigate this risk by surveying customers about the proposed changes, as well as examining other instances of resorts that tried to implement similar strategies.

- Note that our analysis has been built and documented so that it can be used as a baseline for future analytic initiatives