Big Mountain Ski Resort Pricing Strategy

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Problem Identification

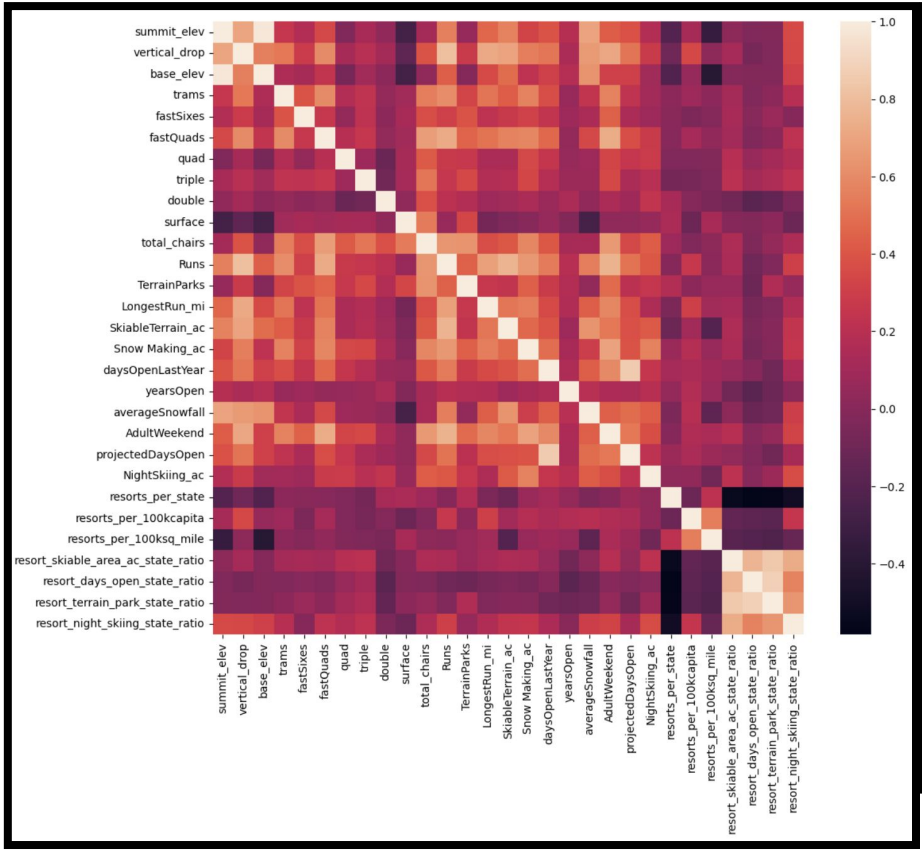
How can the Big Mountain Ski Resort capitalize on their facilities or decrease operational costs without undermining the ticket price, and keeping the price at or below the average, before the next skiing season begins?

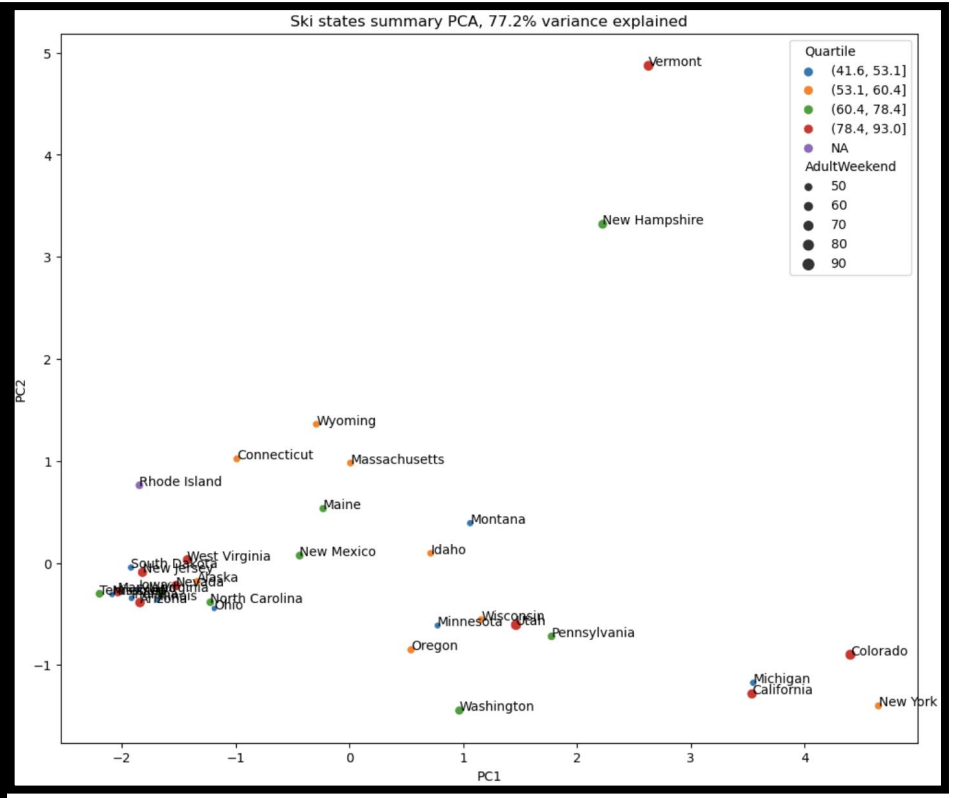
- Installation of chair lift inc. operating costs by $1.54M
- Investigating solutions through data to determine the best value for a ticket price
- Facilities that can be capitalized on and keep ticket price inc. at a minimum
- Resorts that have the most similarity to Big Mountain and compare ticket prices
- Evaluate features that have the most influence on ticket prices
- Constraints: missing data on lodge, services, and conveniences
- Key data sources: SQL database, S3 bucket

Recommendation and Key Findings

- PCA conveys similar resorts
- Montana was unique and not quite similar
- Features used as targets: number of resorts, runs, total chairs, vertical drop, longest runs, snow making ac, skiable terrain, and days open last year
- Features are highly correlated with ticket price which was identified through heatmap and scatter plot
- **There is room for improvement!**

Recommendation and Key Findings



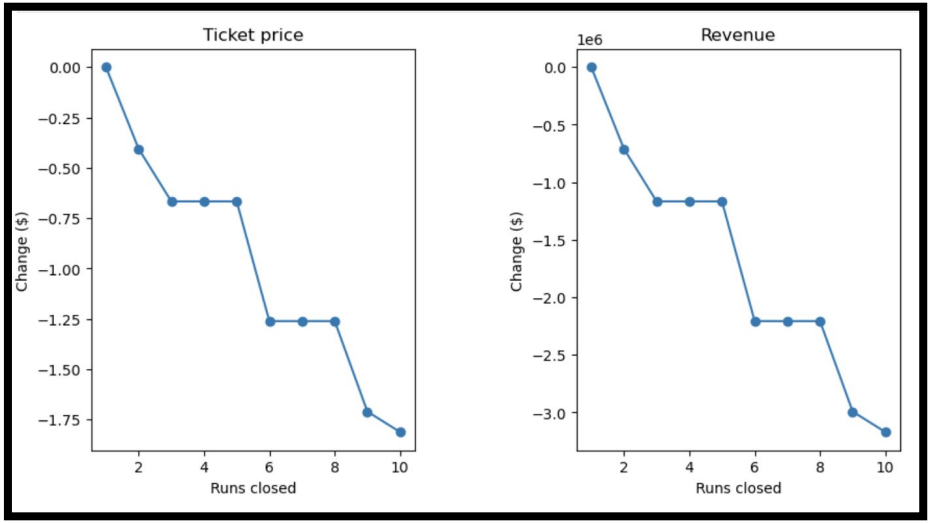


Modeling Results and Analysis

- Mean ticket price = $64
- Used linear regression and random forest regression
- Cross validation model portrayed random forest model gave the best results
- BM currently charges $81 per ticket, modeled price is $96 which is much higher than the current
    a. No set price that the resort has to set ticket prices to
- Additional cost for chair lift is $1.54M
- Possible scenarios for cutting costs or increasing revenue
    a. Permanently closing down up to 10 of the least used runs
    b. Increase vertical drop by 150 ft
    c. Increase vertical drop and add 2 acres of snow making coverage
    d. Increase longest run by 0.2 miles

Modeling Results and Analysis

- Scenarios
  a. Lose money in ticket price with the more runs that are closed as shown in the figure
  b. Best scenario was increasing vertical drop, supported ticket price increase by $2 allowed for an annual estimated profit of $3.47M
  c. Addition of snow making on top of vertical drop inc. made no difference
  d. Increasing longest run by 0.2 miles makes no difference in profit or ticket price



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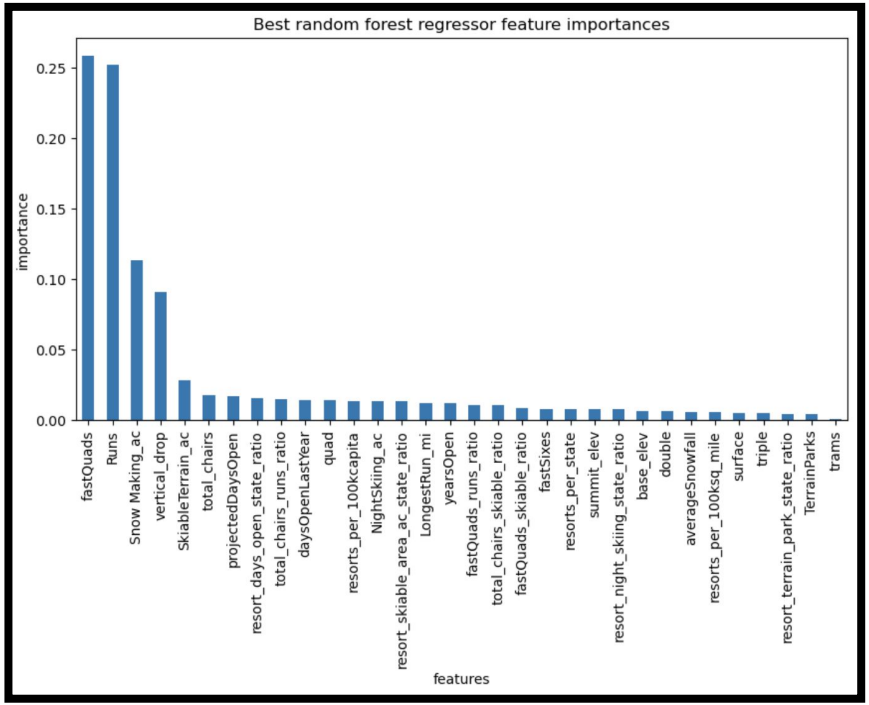

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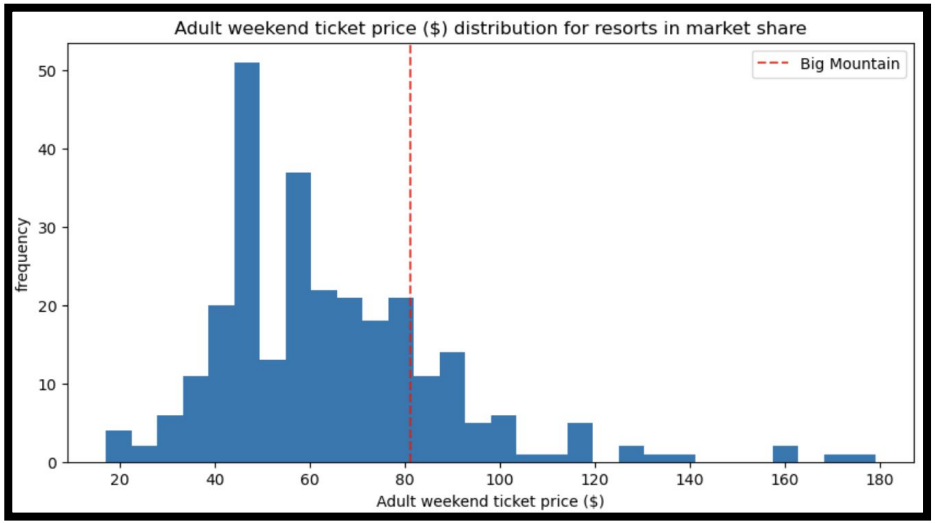

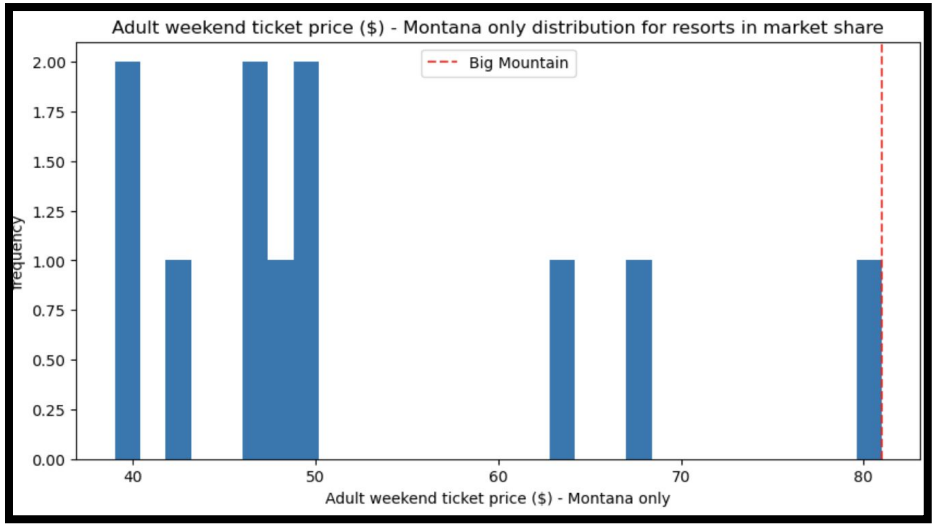

Summary and Conclusion

- BM modeled price is $96 per ticket with MAE of about $10
- Best scenario: increase vertical drop by 150 ft
  - Supports ticket price inc. by $2
  - **Potential revenue: $3.47M**
- Idea: increase ticket price incrementally every season until desired ticket price is reached
- Missing data that may be helpful in gaining more accurate insights:
  - Lodge operations
  - Ski rental equipment
- More data needed to understand why there is such a large gap in actual versus modeled ticket price
- Data is still useful because it conveys there is leniency on increasing ticket price