Big Mountain Resort: Ticket Pricing Model

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Big Mountain Resort

- MBR has excellent facilities
  - Glacier National Park
  - Flathead National Forest
- Runs: 105
- Longest run: 3.3 miles
- 11 lifts, 2 t-bars, and a magic carpet
- 350,000 skiers and snowboarders per season

Problem Identification

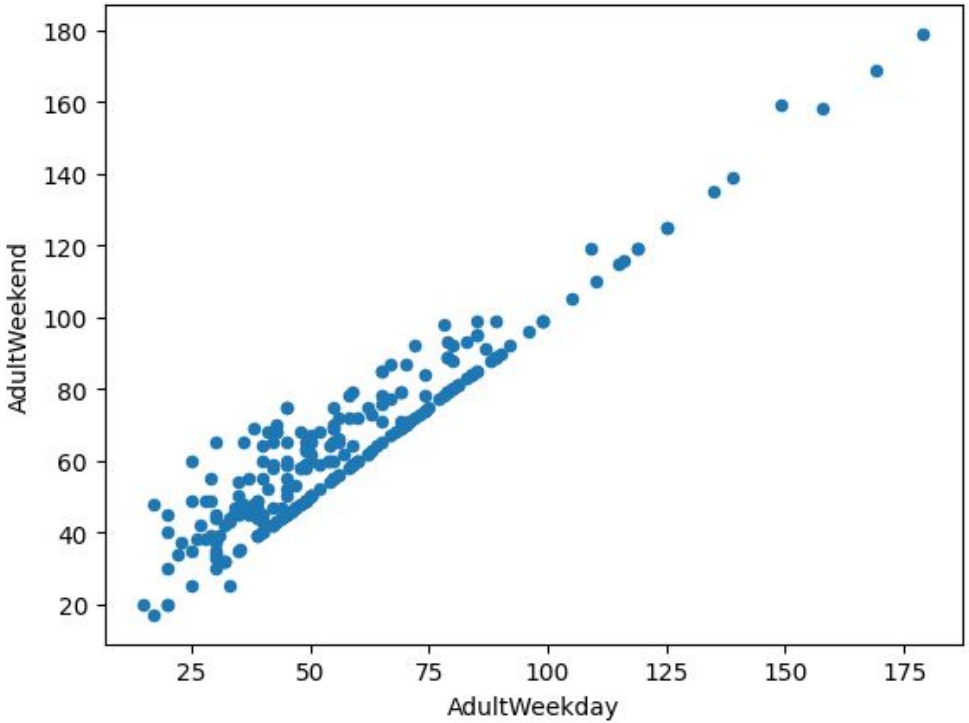
- Problem: New ski lift costs by $1,540,000 this season
- Solution: Increase revenue to cover increased costs
- Strategy 1: Cut operating costs while improving facilities
- Observation: Current prices likely undervalue our facilities
  - Current pricing strategy: Charge a premium on the market average
- Consequences:
  - Missing out on potential revenue and profits
  - Future investment and returns on investment
  - Out-competed by competition
- Strategy 2: Find a new pricing model for skiing tickets in our market segment

Recommendation and key findings

- Current price: $81.00
- Estimated market supported price (MSP): $96.84
  - Mean absolute error: $10.35
- Increase in revenue: $27,720,000
  - ± ~$18,112,500
  - Or $9,607,500 - $45,832,500
- Closing up to 10 runs
  - Closing one run: MSP does not change
  - Closing 10 runs: MSP increases by $1.63
- Increasing vertical drop and install a new chair lift
  - Increased market supported price: $1.99
  - Increased revenue: $3,482,500

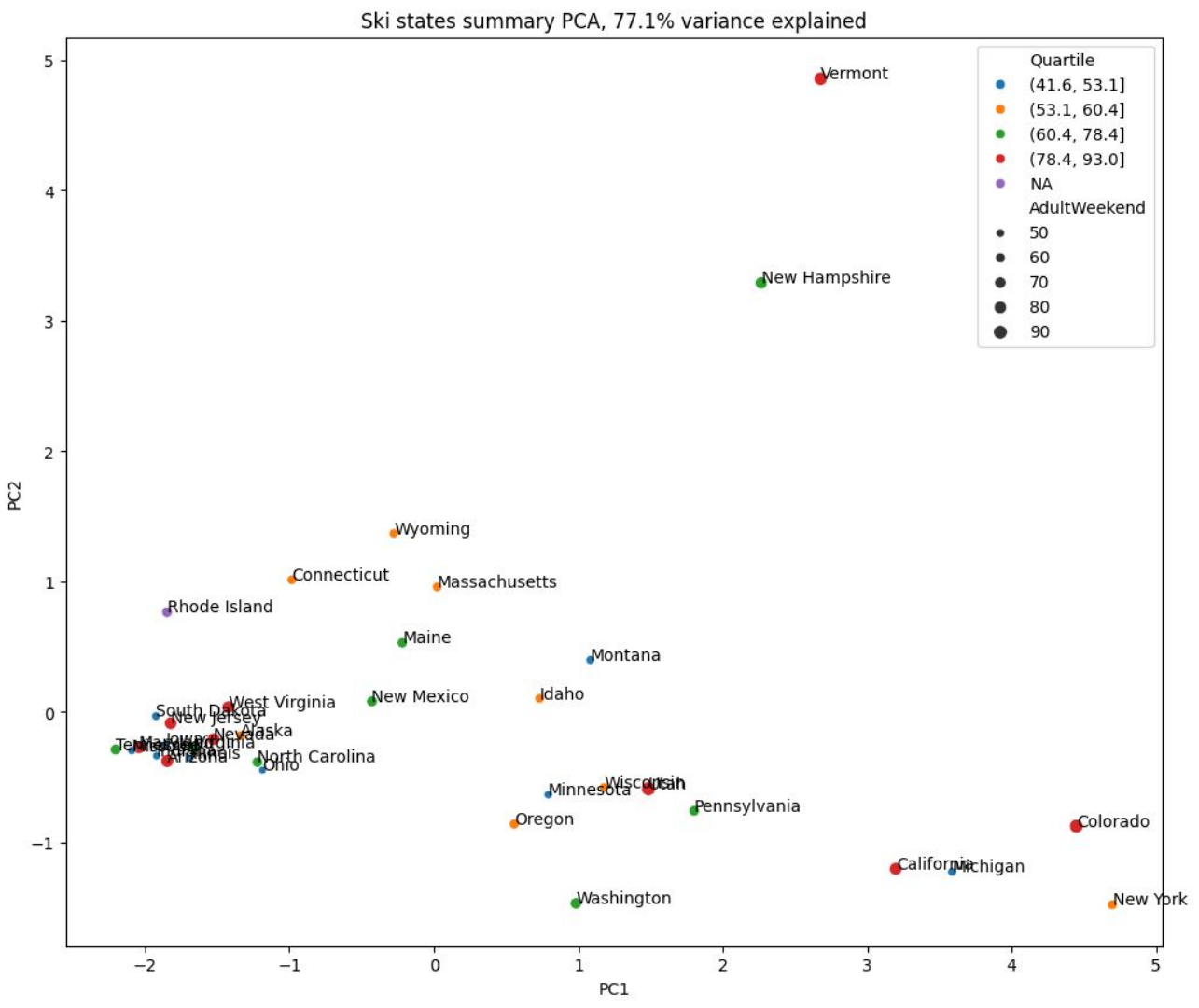
Data set

- 329 observations
- Columns
  - Resort name, state, and region
  - Lift facilities: 8 columns
  - Skiing facilities: 11 columns
  - Weekend and weekday adult ticket prices
  - State area and population
- Target feature: Adult weekend ticket prices
  - Fewer missing values
- Observations:
  - Strong price correlation
  - Weekday price usually less



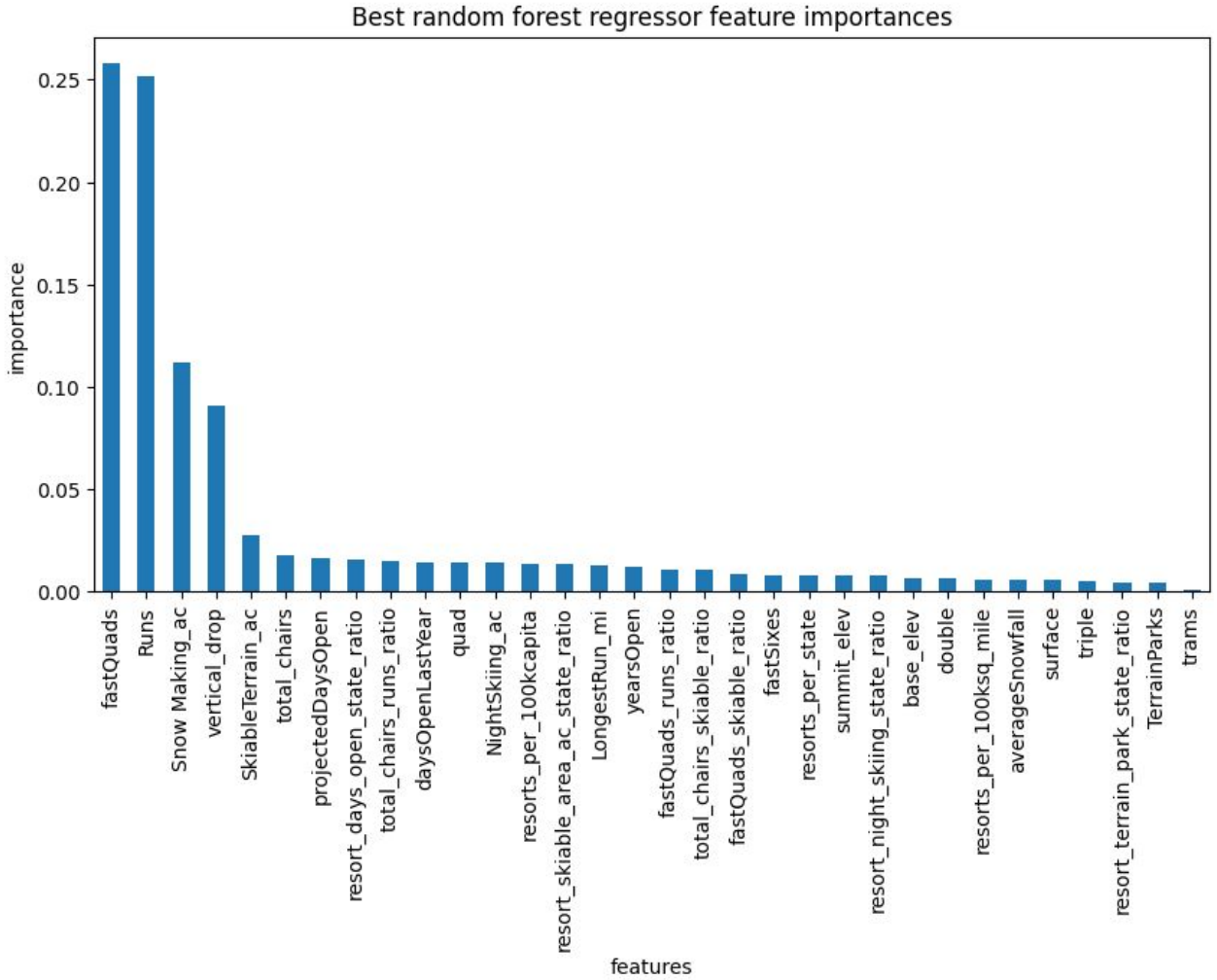
Market segment

- PCA indicates no regional market segments
- MSP model will include the entire market



Model selection

- Linear regression model vs. random forest regress
- Random forest regress had a lower mean absolute error using cross-validation on training data
- RFR indicated four important features
  - fastQuads
  - Runs
  - Snow Making_ac
  - vertical_drop
- Impact: guides facility improvements



Summary and conclusion

- Motive for increasing revenue
- Identified two strategies for increasing revenue
  - Implemented the second strategy
  - Impacts on the first strategy
- Actionable pricing model
- Confirmed the suspicion that BMR is undervaluing its facilities