Big Mountain Resort Ticket Pricing Adjustment

August P.
Jan2024

Current Conditions

Ticket Price (Adult Weekend): $81.00

Estimated Yearly Revenue: $141,750,000.00

(est. 350,000 visitors, 5 days per visitor)

Pricing Strategy: Premium charge above market average

Problem Identification

Big Mountain Resort needs a more accurate pricing model to represent its available facilities and services. The model should also help guide decisions in investment strategy.

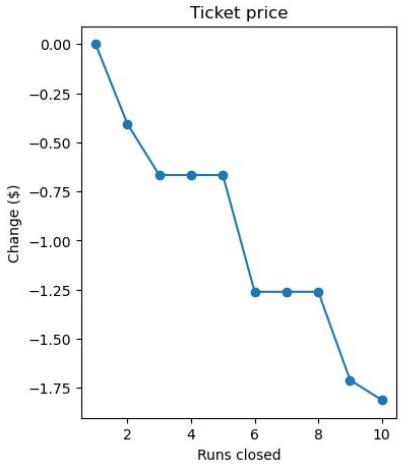
Recommendation

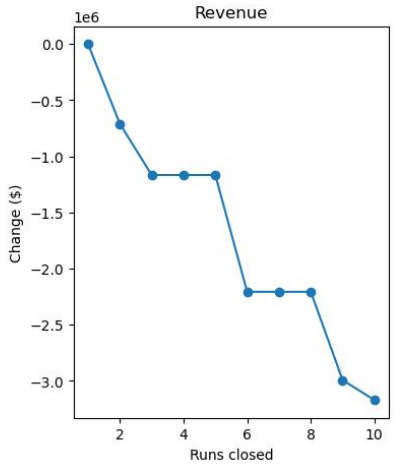
No Facility Changes:

- ticket price: $97.20
- Estimated revenue increase: 20%

Close up to 10 least used runs:

- Saves operating costs





(Revenue Change in $100,000 increments)

Key Findings

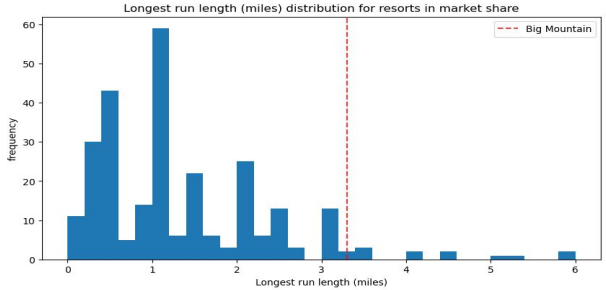
- Resort features most closely correlated to ticket price (i.e. The Major Features):
  - Vertical Drop Distance
  - Snow Making Acreage Ability
  - Total chair Lift Count
  - Fast Quad Chair Lifts
  - Runs Quantity
  - Longest Run Length
  - Trams
  - Skiable Terrain
- Big Mountain Resort is a top contender for the majority of the major ski resort features

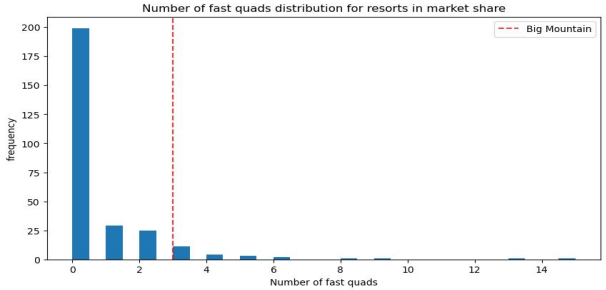
Modeling Results and Analysis

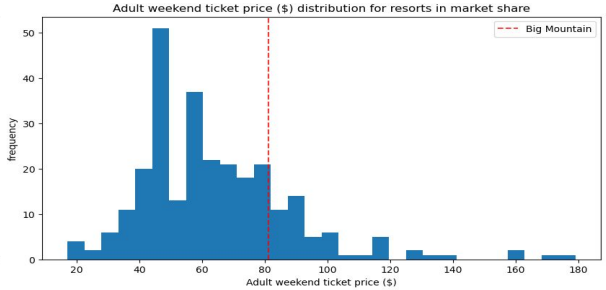
- Model type & Conditions:
  - Random Forest Regressor with median imputation strategy
  - Out of the models attempted the RF model was chosen as the best model due to having the lowest mean-absolute-error from actual price during training, and the lowest variability (standard deviation) for repeated attempts on the same parameters.

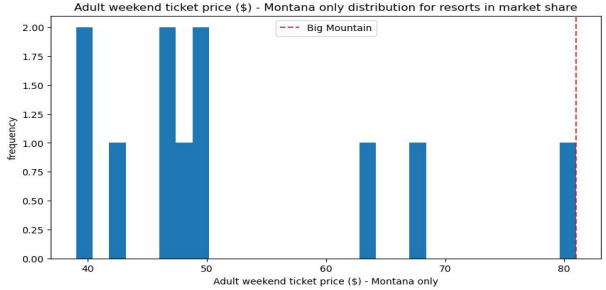
- Big Mountain Resort Model Outcomes
  - Modeled price: $95.87 ($85.48-$106.26), MAE: $10.39

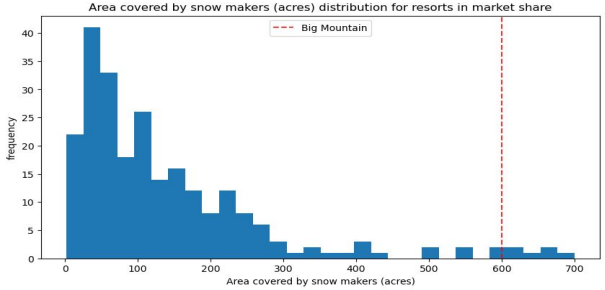
How Big Mountain Resort compares to competitors

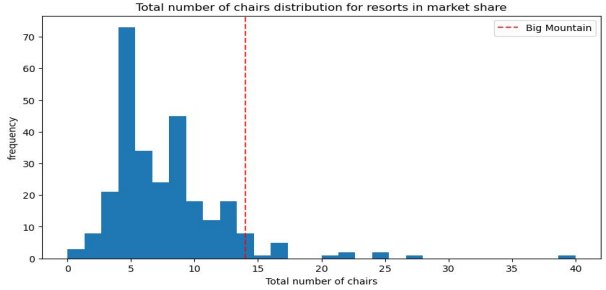


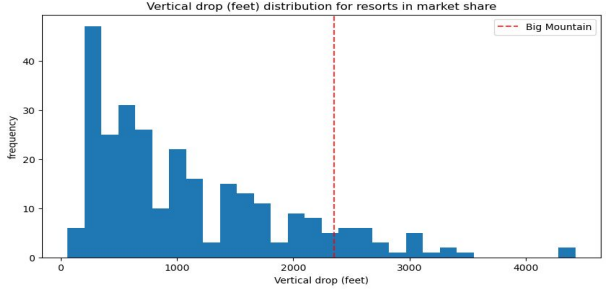


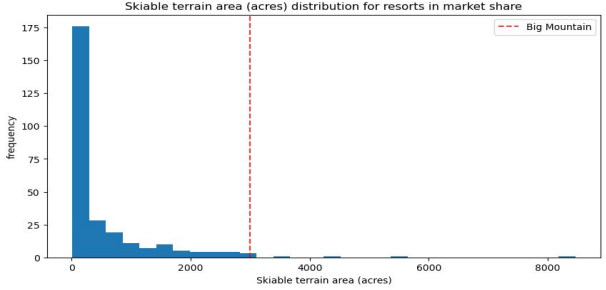


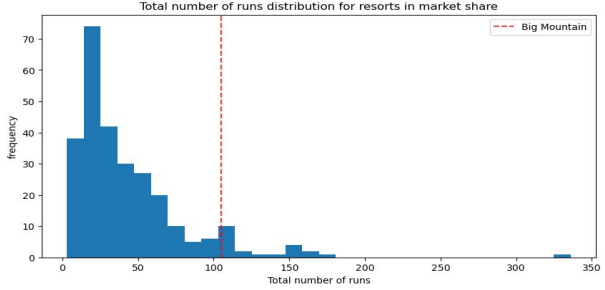








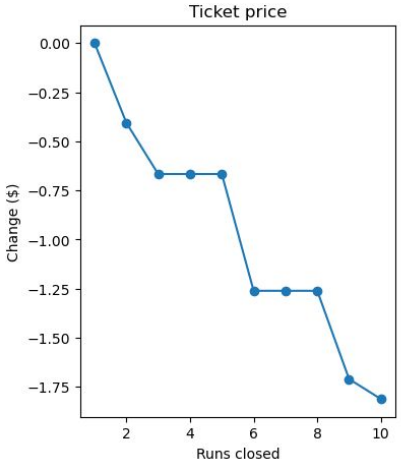


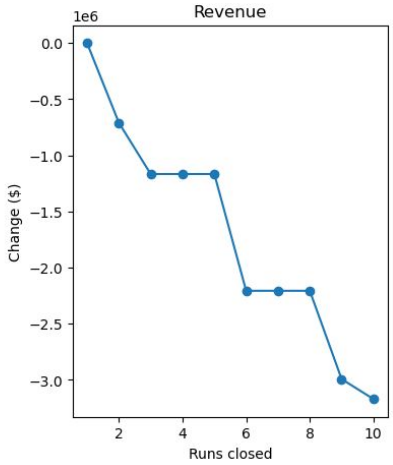


Modeled Scenarios

- Scenario 1
  - Close up to 10 of the least used runs (Calculated based on current pricing strategy)

Runs Closed	Ticket Price	Est.Revenue	%change
0	$81.00	$141,750,000.00	0.00%
1	$81.00	$141,750,000.00	0.00%
2	$80.59	$141,032,500.00	-0.51%
3	$80.33	$140,577,500.00	-0.83%
4	$80.33	$140,577,500.00	-0.83%
5	$80.33	$140,577,500.00	-0.83%
6	$79.74	$139,545,000.00	-1.56%
7	$79.74	$139,545,000.00	-1.56%
8	$79.74	$139,545,000.00	-1.56%
9	$79.29	$138,757,500.00	-2.11%
10	$79.19	$138,582,500.00	-2.23%





(Revenue Change in $100,000 increments)

Modeled Scenarios

- Scenario 2
  - Add 1 run, install 1 additional chair lift, vertical drop increased by 150ft
  - Predicted price increase: $8.61 ($89.61)
  - Predicted Revenue increase: $15,065,471
- Scenario 3
  - Add 2 acres of snow making capability in addition to scenario 2
  - Predicted price increase: $9.90 ($90.90)
  - Predicted Revenue increase: $17,322,717 ($2,257,246 above scenario 2)
- Scenario 4
  - Increase longest run length by 0.2mi, add 4 acres of snow making capability
  - Predicted price increase: $0.00 ($81.00)
  - Predicted Revenue increase: $0.00

Summary & Conclusion

- Big Mountain Resort is currently charging too little for its ticket price with current pricing practices. By adopting a pricing strategy based on available resort features, BMR would be able to increase revenue and avoid over-charging visitors (not reducing visitor count due to cost).
- Scenario 1 would be the suggested course of action after model pricing is adopted. Reducing overhead costs is simpler than additions to justify a further price increase to customers. It is also easier to market to visitors a ticket price reduction with non-popular run closures being largely unnoticed.
- Future work could include investigation into operating costs for more detailed modeling and investment insight
- This model can be integrated into a dashboard or app for company analysts to further investigate change scenarios at BMR.