

# Big Mountain

Executive Presentation  
*January 2023*



# Problem Identification

Will increasing chairlift tickets by \$10 this season cover new operating costs while also staying within the price range of other ski resorts?

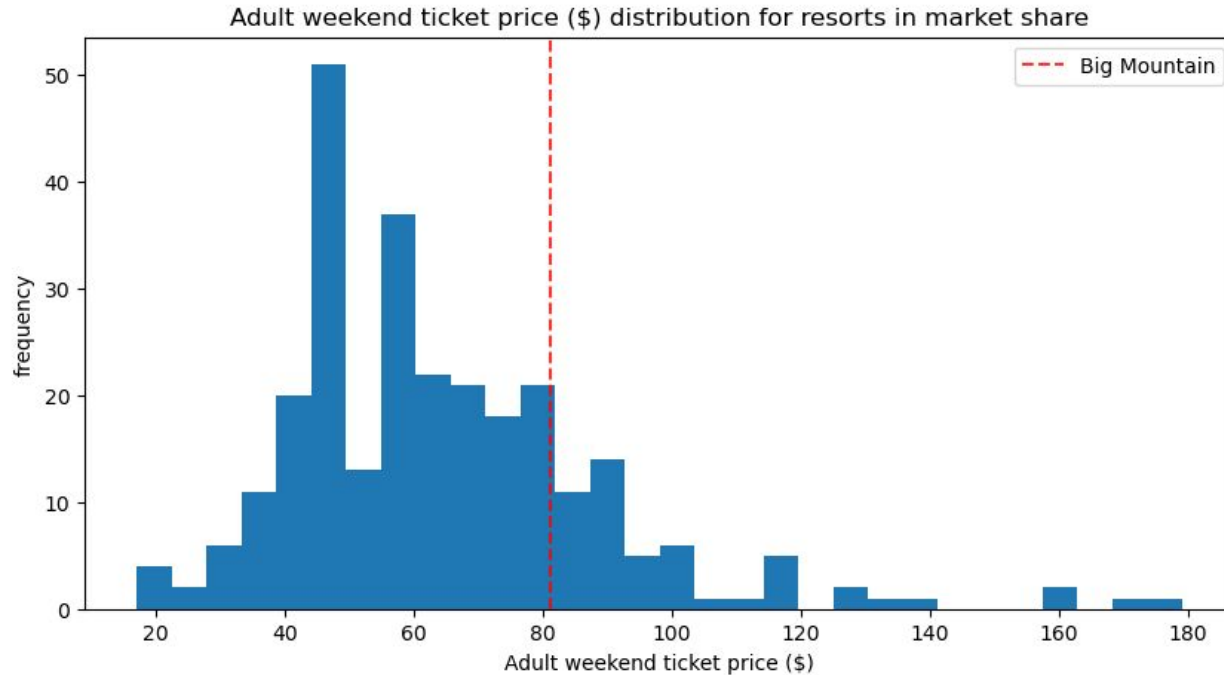
# Recommendation and Key Findings

**Yes**, increasing ticket price by \$10 can cover new operating costs.

Two pricing options, which are not mutually exclusive:

- Big Mountain currently charges \$81 for its adult weekend ticket price; based on the modeling the relationship of resort features to ticket price of other resorts, Big Mountain could charge **\$97** given the current resort features
- Regarding the additional operating cost of the new chair lift per ticket (on the basis of each visitor on average buying 5 day tickets): \$7 would cover adding a run, increasing the vertical drop by 150 feet, and installing an additional chair lift (eg, moving ticket price from \$81 to **\$88**)

# Modeling Results and Analysis



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## **Data Sources:**

Data contains information from 330 resorts in the U.S. considered part of the same market share as Big Mountain Resort

## **Scope:**

Focus is on ticket prices with consideration of changes that may either cut costs without undermining the ticket price or will support an even higher ticket price

# Modeling Results and Analysis

## **Approach:**

Built multiple machine learning models to evaluate impact of ski resort features on weekend ticket price

Linear regression and Random Forest

Imputation via median and mean values

Key features: vertical drop, snow making, total chairs, fast quads, runs

Cross validation with  $k=5$  (linear regression r-squared 0.79 ; random forest : r-squared 0.62-0.77)

Mean absolute error: 11.8 (linear regression) and 9.4 (random forest)

Chose to work with random forest given lower mean absolute error

# Summary and Conclusion

- 1) Good dataset for answering business question

*Note however that dataset does not contain other potentially relevant information such as customer feedback surveys, skiing and snow quality/conditions, customer loyalty, etc.*

- 2) Evaluated multiple different pricing options
- 3) Adult weekend ticket price may be increased from \$81 to between \$88-\$97 based on data analysis