

Predicting Ticket Prices at Big Mountain Resort

Background

Big Mountain Resort is a ski resort located in Montana, U.S.A that has views of Glacier National Park and Flathead National Forest. Each year, the resort services 350,000 visitors. Recently, an additional chair lift was installed to help distribute visitors across the mountain and enhance their experience, with the hope that this will support higher ticket prices. The new lift increases operating costs by \$1,540,000 for the season.

Purpose

The purpose of this data science project was to determine how Big Mountain Resort should adjust the pricing model for Adult tickets in order to increase the profitability of its facilities while remaining competitive in its market segment.

Recommendations

Big Mountain Resort should increase its Adult ticket price to \$95.87. Additionally, adding another run to increase the vertical drop by 150 feet and an additional chair lift will support an additional \$1.99 price increase per ticket. When closing runs, Big Mountain should be strategic and carefully consider the profit potential as closing runs weakens price support.

Pricing Increase

Big Mountain currently charges \$81 for both Adult Weekday and Adult Weekend tickets. This price is based on charging a premium above the average price of resorts in the same market segment. The new chair lift increases operating costs by \$1,540,000 for the season. Assuming 350,000 visitors for the season and an average purchase of 5 tickets, the operating cost increase is \$0.88 per ticket.

The model recommends an Adult Weekend ticket price of \$95.87 (a \$14.87 price increase per ticket). Taking the inaccuracy of the model into account, the actual price should range between \$85.48 and \$106.26 inclusive. The price increase adequately covers the increased operating costs for the new chair lift.

The top five features that drive the model's recommendations are as follows, in order of importance: 1) number of fast quads, 2) number of runs, 3) total area in acres covered by snow making machines, 4) vertical drop in feet, and 5) total number of chair lifts.

Big Mountain does better than most competitors in number of runs, snow making area, and total number of chairs. It performs well in number of runs, vertical drop and fast quads, though there are some resorts with better facilities. See Appendix A for the figures that show how Big Mountain compares with its competitors for these features.

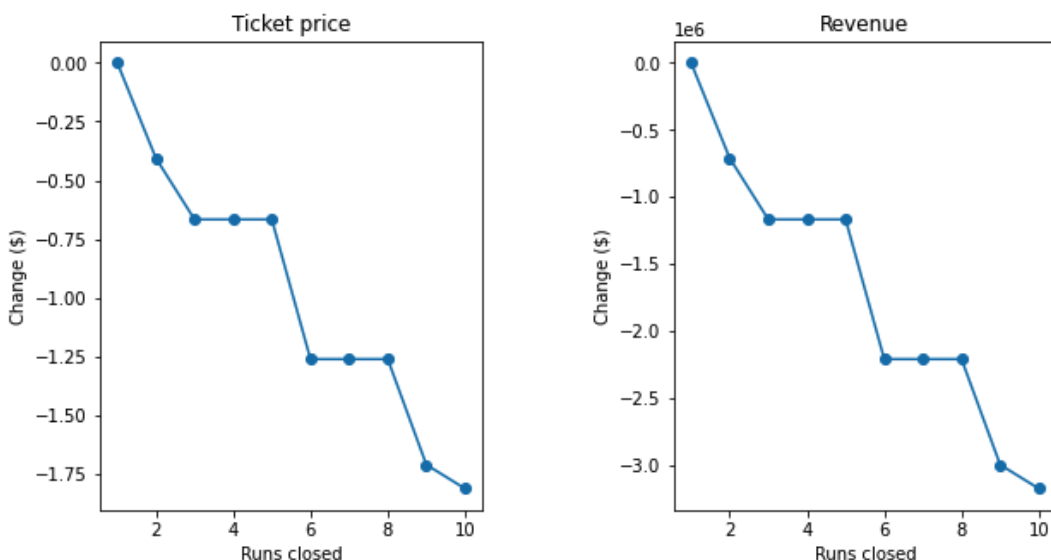
Scenario Recommendations

Big Mountain resort is also considering four options to either cut costs or increase revenue:

1. Permanently close up to 10 of the least used runs.
2. Add a run that increases the vertical drop by 150 feet and install an additional chair lift.
3. Same as 2, but add 2 acres of snow making cover.
4. Increase the longest run by 0.2 miles and add an additional 4 acres of snow making coverage.

Scenario 4 doesn't result in a price change, therefore it is **not** recommended. Scenarios 2 and 3 both support a price increase of \$1.99 per ticket. Since scenario 3 is likely to come with higher operating costs than scenario 2, scenario 2 is the better option.

Closing runs (scenario 1) leads to weakened price support. Therefore, the executive team should proceed with caution. However, as shown in the figure below, not all successive run closures cause price dips. For example, closing 5 runs doesn't cause any further loss in ticket price than closing 3.



Appendix A

