

Guided Capstone Project Report

The objective of this project was to reassess the pricing of Big Mountain resort ticket prices based on the prices of other resort tickets in the market. We did this by building multiple models, then selecting the random forest as the most accurate, having the lowest mean absolute error and lowest variability on predictions. The total number of features used in modeling was 35, but we narrowed the best down to 8: vertical drop, snow making acreage, total chairlifts, number of fast quad chairs, number of runs, longest run distance, number of trams, and skiable terrain acreage.

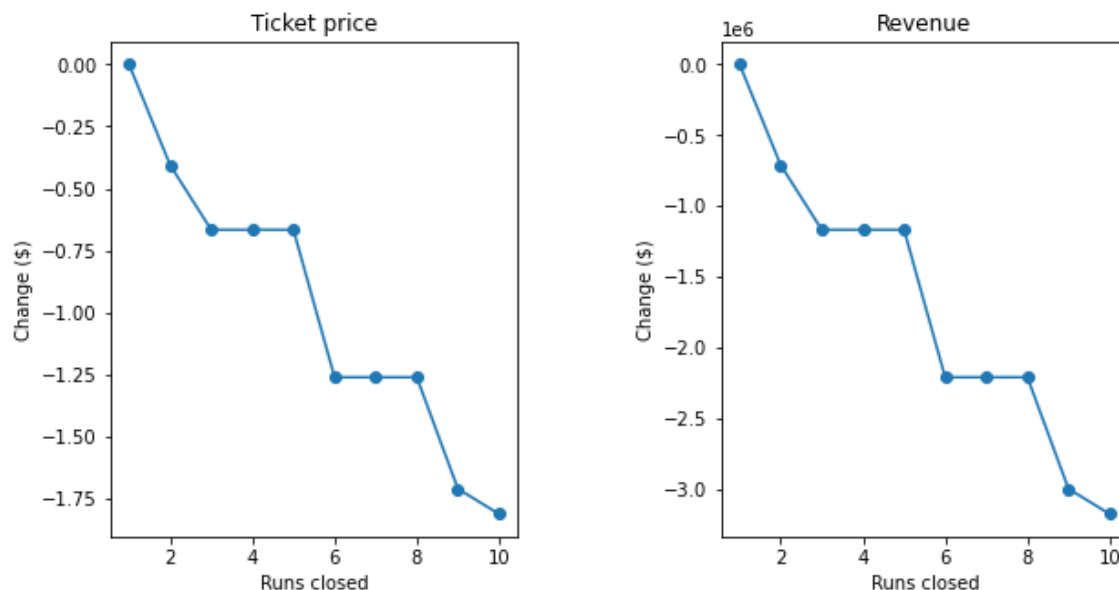
After completing the project, we have three suggestions to give regarding ticket price and improvements to the park that would best improve profits in regards to ticket prices. First is to raise the cost of an adult ticket so that it accurately represents the value of the facilities that Big Mountain offers. Second is to close down runs, and third is to add a run and a chair lift to increase the total vertical drop of the resort.

Raise ticket price

The current price for a single day ticket is \$81.00. Under our model, when predicting the price for Big Mountain based on its facilities, the price for a ticket was \$95.87. This was an increase of \$14.87, which when multiplied by the 350,000 expected visitors, and multiplied again by the expected 5 day stay, was found to be a \$26M per season increase. This far outweighs the original need for this project, which was \$1.54M.

Run closures

Run closures was a slightly more complicated scenario. This is not close vs don't close, this is exploring the benefits of each individual number of closures. Our model shows the outcome of each number, in terms of ticket price and revenue drop.



Even after looking at this data, in order to make a decision on run closures you need to be able to weigh it against the benefits of dropping maintenance costs. We don't have that data currently, so in order to be properly informed on this option more research must be done.

Run and chair lift addition

In this modeled scenario, we looked at the predicted increase in ticket value if you add a run, increase the vertical drop by 150 ft(as a result of this added run), and installed an additional chair lift. The increase came out to \$1.99 per ticket, which would be \$3,474,638 per season.

To put all of this together, we have three recommendations to make based on our model: raising the ticket price based on current features, closing runs after proper research on the best runs to close based on maintenance costs, and adding a new run and chair lift to increase ticket value further. All three of these would give Big Mountain millions more in revenue per season.