Capstone 1: Big Mountain Ski Resort Report

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1 Summary of Process:

After following the data science method including data wrangling, exploratory data analysis, pre-processing & training and modeling we were able to evaluate the different measures we could take to cut costs and/or increase revenue. Currently Big Mountain charges $ 81 but our best model suggests it could charge $ 95.87 . Below is a diagram for context about where Big mountain sits amongst all other US resorts for price.

Figure 1: Adult weekend ticket prices
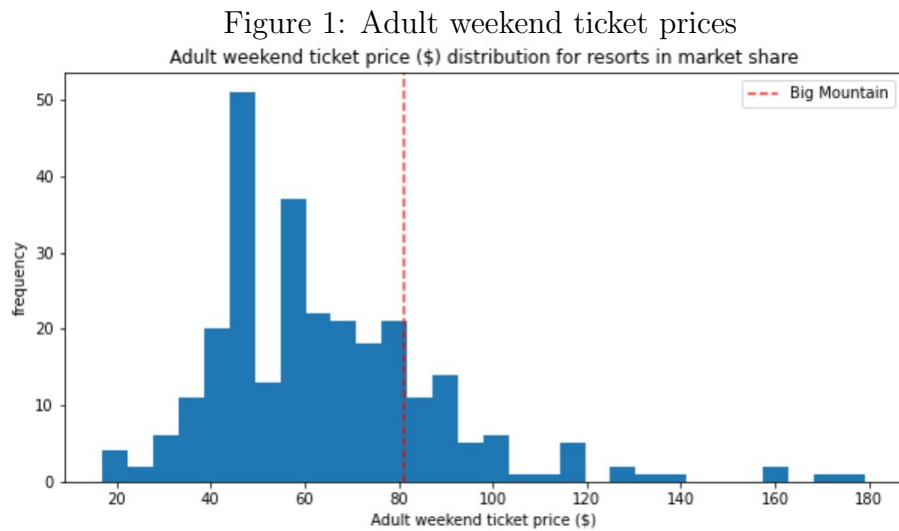
2 Recommendations:

Scope of Analysis: The business shortlisted 4 main options to evaluate

1. Permanently closing down up to 10 of the least used runs. This doesn't impact any other resort statistics.

2. Increase the vertical drop by adding a run to a point 150 feet lower down but requiring the installation of an additional chair lift to bring skiers back up, without additional snow making coverage

3. Same as number 2, but adding 2 acres of snow making cover

4. Increase the longest run by 0.2 mile to boast 3.5 miles length, requiring an additional snow making coverage of 4 acres

Scenario 1 Analysis: The first scenario of closing 10 of the least used runs ended up with the conclusion that closing 1 would not impact ticket price that much. Closing 2 would start to reduce ticket price. From 3 to 5 would be a similar price change so if management wants to close more than 3, up to 5 would make sense as the cost is comparable.

However, starting from closing 6 runs would result in a substantial decrease in revenue. A cautiously gradual approach to closing runs would make sense to not drastically impact revenue to the point where they can't recover.

Figure 2: Price impact with run closures
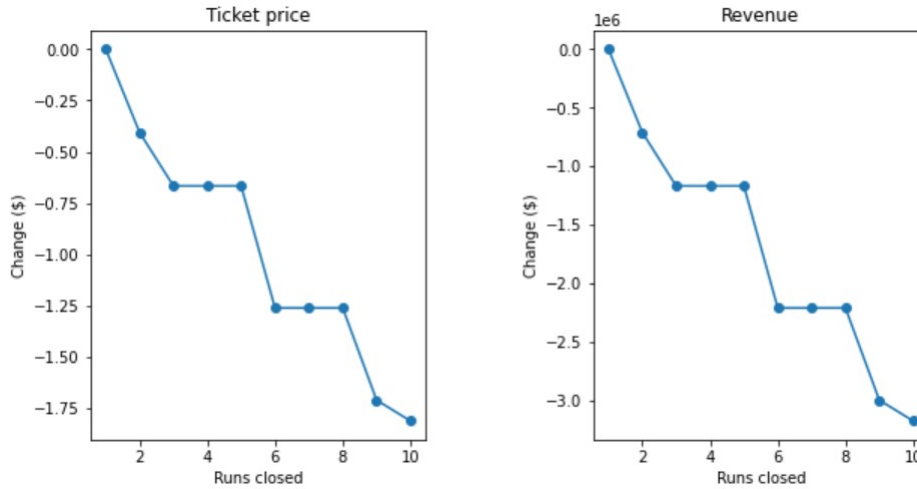
Scenario 2 Analysis: With scenario 2 of adding a run, increasing the vertical drop and installing an additional chair lift could support increasing the ticket price by $ 1.99 which could amount to increased revenue of over $3 million a year given our prior assumption on projected customer volume and anticipated number of tickets that will be purchased. As long as the cost of making those improvements doesn't significantly exceed the increased revenue projections, it could be a valid recommendation. From the initial case description we saw how an additional chair increases their operating costs by $ 1,540,000 per season which so far looks like less than the potential revenue increase so the capital investment still seems like it could pay of long term.

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Scenario 3 and 4 Analysis: It wouldn't be worth recommending the 3rd scenario because adding 2 acres of snow making didn't increase ticket prices beyond scenario 2. Scenario 4 of increasing the longest run isn't worth pursuing because there was no positive impact on ticket price.