Project Report

Big Mountain Resort

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Summary of Findings

A)Ticket Pricing

The project developed a **ticket price model** based on the available data for 330 resorts. As per the model, Big Mountain Resort (**BMR**) could potentially increase its ticket price to **$96.00,** which represents a significant 18.5% upside from the current $81.00 tag.

The model found **8 features** have the most impact on ticket pricing and **BMR has superior performance** on all the 8 features as enumerated in point (2) below in decreasing order of significance.

1) **Market Price Range**: Ski Resort ticket prices across the country range from $17 to $179, with an average price of $64. BMR's current price of $81.00 is at 81 percentile i.e. higher than 81% of the resorts.
2) **Key Features and BMR Performance**: The below 8 features have highest impact on ticket pricing:
    a) Vertical Drop: Makes the skiing experience more exhilarating, has the highest impact on pricing. BMR with 2353ft is at ***90*** percentile i.e. better than 90% of the market.
    b) Snow making acreage: This no. 2 feature guarantees visitors of more area for skiing. BMR with 600 acres is at ***98*** percentile.
    c) Total Chairs: Visitors can be ferried faster to the runs, reducing wait times and increasing skiing time. BMR with 14 chairs is at ***95*** percentile.
    d) Fast Quads: Visitors can be ferried faster. BMR with 3 fastquads is at ***95*** percentile.
    e) Total runs: More runs, more skiing visitors can do. BMR with 105 runs is at ***93*** percentile.
    f) Longest Run: BMR with 3.3 miles is at ***96*** percentile.
    g) Trams: BMR doesn't have trams, but is still at ***92*** percentile i.e. 92% of resorts don't have any trams.

h) Total Skiable Terrain: BMR with 3000 acres is at ***98*** percentile.

Overall, BMR was at an average of ***94.6*** percentile for these 8 features i.e. better than 94.6% of the resorts in the country. The recommended $96.00 price tag is ***92.4*** percentile of the market pricing, so is intuitively in line with BMR's performance on important facilities as compared to the market.

The large difference of the model's pricing from the current one is clearly a result of current pricing using the mean pricing of the entire market. The mean is impacted by outliers, and there are resorts with pricing as low as $17 that depress the current average.

Two key points to be noted for above recommended price of $96.00 are:

1) The model has an absolute error of $10.4, i.e it could project a price $10.4 lower or higher than the actual price. So if one assumes that the model over-predicted for Big Mountain, it still supports a price of $85.00 approx.
2) There was no data available on demand/visitors by resort or state and therefore, the model has not established any price sensitivity of demand. As price increase can potentially impact no. of visitors and hence revenue, it is recommended that a study of demand impact at different price levels be conducted prior to a final decision on price.

B)Cost-Benefit Analysis of Feature Changes

1) **Closure of the 10 least used runs**: The model shows that there is no impact on price for 1 run closure, but an increasing impact thereafter, ranging from $0.41 (2 runs) to $1.81 (10 runs) per ticket. The price impact for closing 3 to 5 runs is the same at $0.67 per ticket. Based on expected visitors this year, this is a potential revenue impact of **$1.15 million**. It should be noted that the model treats all runs as similar, it cannot differentiate between more popular and less popular runs. As such, closure of the least frequented runs may not have as much impact as predicted by the model. The closure of least popular runs could be implemented in 2 or 3 stages, starting with the bottom 5 and progressing further in case no impact is seen on demand.
2) **Increasing vertical drop by 150 feet and installing an additional chair lift**: As per the model, this change has the potential to support a $1.99 increase in ticket price, resulting in a **$3.47 million** increase in revenue. Given operating costs of **$1.54 million**, this initiative can be profitable if the price increase of $1.99 is taken.

3) **Repeating 2, but adding 2 acres of snow making**: The model does not predict a price increase for this initiative, presumably as the increase in snow making area is too small.
4) **Increase the longest run by 0.2 miles**: Here again, the model does not support a price increase.

Action Points

1) **Establish Price sensitivity of demand:** A price increase can impact demand and hence revenue. A demand-supply model needs to be established to analyse price sensitivity of demand before taking any price increase.
2) **Cost-Benefit Analysis Module**: To support business teams to quickly and easily check the cost-benefit of any feature changes, a module with an intuitive interface can be made available. The business team can feed in the quantum of a feature change or combination of features and see the resultant value addition/reduction to ticket price. This would speed up the decision making process.

Further Development

The current model is built on pricing and features data available for 277 resorts, including Big Mountain. However, in addition to resorts features, there could be other parameters that influence pricing such as:

a) **Popularity of skiing in a certain state/region**: This could be derived by the total no. of visitors to all resorts in a state and be an important input to understanding demand-supply dynamics.
b) **The Demand-supply dynamics of a resort and the state**: As against total demand, what is the capacity of a resort ? Is it running at full/partial capacity ? What capacity are other resorts running in the state?
c) **Ratings and reviews of resorts by travel sites/influencers/visitors**: Pricing can be influenced by ratings and reviews that are available online.

To make the ticket pricing model more complete and accurate, it would be worth gathering data on above parameters and incorporating in the model.