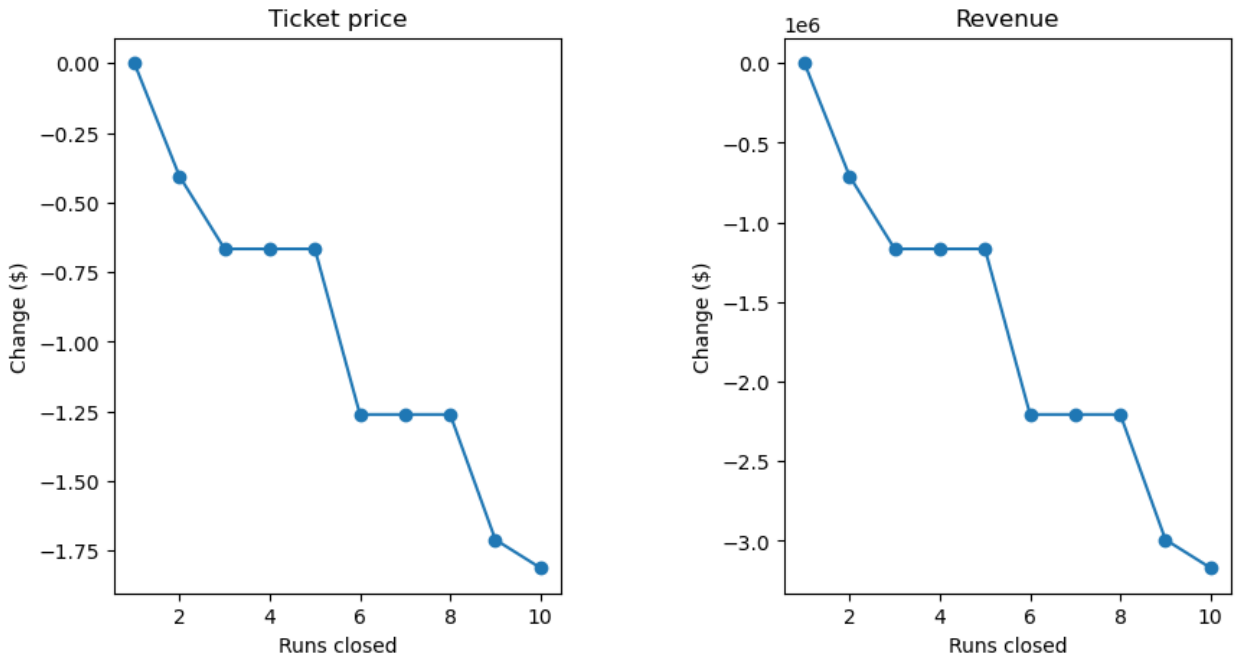
Big Mountain Resort, located in north-western Montana, opened in 1947 and offers 105 named trails, including vast bowl and tree skiing. It has 11 lifts, 2 T-bars, and one magic carpet for snow sports. Recently, an additional chair lift was installed to distribute visitors more evenly, increasing the operation cost by $1,540,000 this season. The resort aims to increase profit by up to 9.2% by the end of the ski season.

The resort proposed four scenarios to justify the ticket cost. The options include permanently closing up to 10 underutilized runs while maintaining the current price structure, increasing ticket prices to cover the operating cost, raising prices and adding additional features, such as extending the vertical drop by 150 feet and installing another chair lift, or increasing the vertical drop and incorporating 2 acres of snowmaking. Another option is to extend the longest run by 0.2 miles, requiring 4 acres of additional snowmaking coverage.



The analysis conducted on the closure of runs versus changes in ticket prices shows that closing up to 5 runs would result in a modest decrease in revenue of approximately $500,000, without a significant change in ticket prices. However, closing more runs would lead to substantially lower ticket prices and nearly triple the loss of revenue.

The models for increasing ticket prices and adding features were also analyzed. Increasing the vertical drop by 150 feet could support a price increase of $8.67 per ticket, resulting in revenue of around $15 million. Incorporating 2 acres of snowmaking along with the increased vertical drop could justify a price increase of $10.59 per ticket, generating an additional $3.5 million in revenue for a total of $18.5 million. On the other hand, increasing the longest run by 0.2 miles and guaranteeing snow coverage through the addition of 4 acres of snowmaking did not show any difference in ticket pricing.

Considering the revenue increase with the scenario involving a 150-foot vertical drop extension, it appears to be the most logical choice. The options of closing runs and extending the longest run have either a decrease or no change in revenue. However, before making a final decision, further analysis is required, taking into account additional data such as the cost of snowmaking, the perception of an $8.67 versus a $10.59 price increase, and the feasibility of accommodating people in the extended snow area.