Big Mountain Resort Pricing Analysis

Data-driven recommendations for strategic pricing and facility investment

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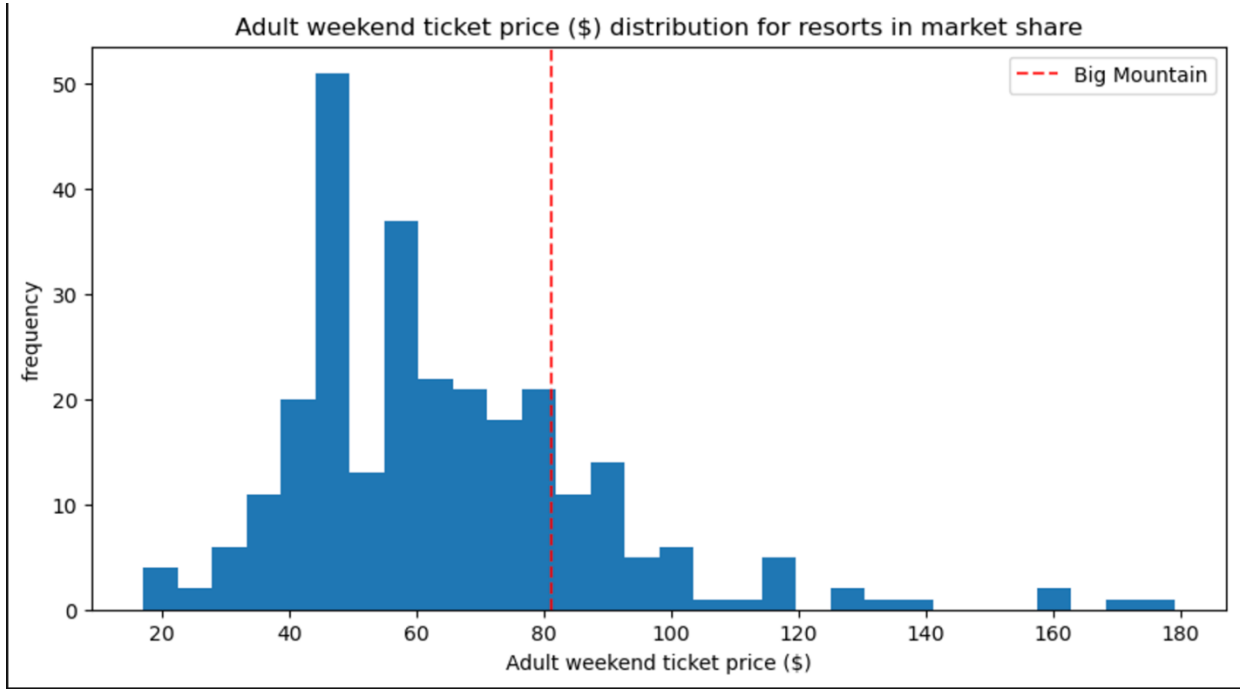
Problem Identification

Is Big Mountain priced correctly for its market position?

- Current weekend ticket price $90
- Question: Does the price reflect the resort's true market value given its terrain, lifts, and snowmaking capacity?
- Goal: Identify whether pricing can be increased responsibly, supported by data and market comparisons



Key Recommendation & Findings

Recommended Weekend Price $95 - $100

- Modeling suggests Big Mountain can support a higher ticket price based on facility quality
- Small upgrades (new lift, added terrain, improved snowmaking) can justify incremental increases
- Price changes should be gradual and paired with visible improvements to maintain guest satisfaction

Modeling Approach
How We Built the Pricing Model

- **Data Used:** Ski Resort dataset with prices, terrain, and operations data
- **Preprocessing:** Missing values filled with medians, numerical scaling applied
- **Models Tested:**
  - Dummy Regressor (mean benchmark)
  - Linear Regression (baseline model)
  - Random Forrest Regressor (final model)
- **Evaluation Metric:** R^2 and Mean Absolute Error (MAE)

DATA → Preprocessing → Modeling → Evaluation

Random Forrest Outperformed Linear Regression

- Random Forest showed higher accuracy and consistent test results
- Avoided overfitting and captured nonlinear relationships between features

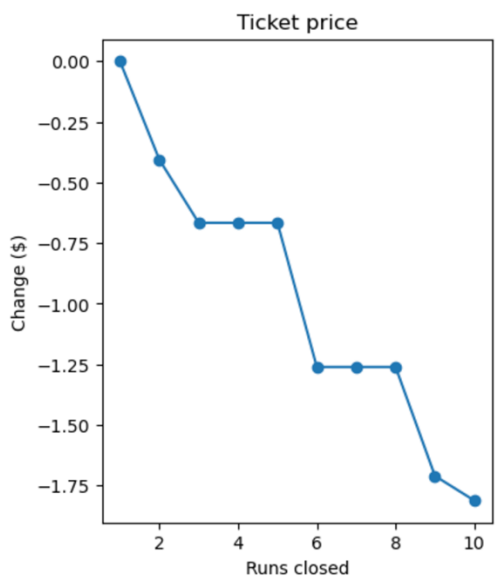
Model	R^2 (Cross-Validation)	R^2 (Test)	MAE (Test)
Dummy (Mean)	0.00	0.00	—
Linear Regression	~0.55	~0.54	~$6
Random Forest	**~0.78**	**~0.77**	**~$4**

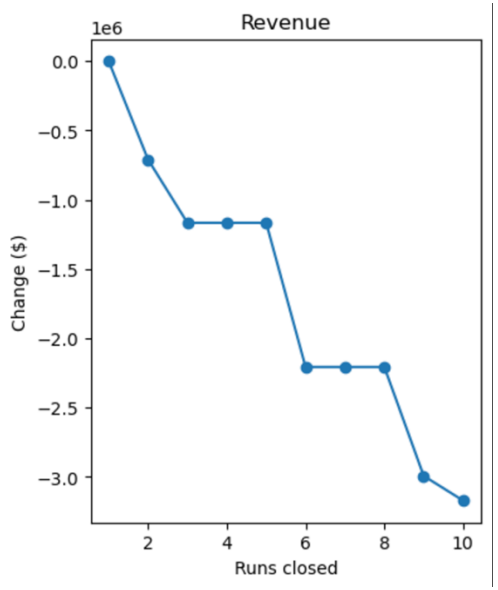
What drives ticket price?

- Top predictive features
  - Vertical drop
  - Total chair lifts
  - Snowmaking acreage
  - Skiable terrain
- Indicates that price is tied closely to visible infrastructure and ski experience

Facility Upgrades Drive Predictable Price Increases

Scenario	Feature Change	Predicted Ticket Price Increase	Est. Revenue Impact*
1	+1 Chair Lift	+$3	+$150K
2	+1 Lift, +1 Run, +150 ft Vertical	+$5	+$250K
3	+Snowmaking (+2 acres)	+$10	+$500K





Summary and Business Recommendation

- Big Mountain is underpriced compared to similar resorts
- Gradually increase ticket price to $95-$100 in line with visible facility upgrades
- Prioritize snowmaking and chairlift expansion for highest ROI
- The Random Forrest model provides a reliable foundation for pricing strategy
- Future Work
  - Add cost and demand data for profit modeling
  - Build an internal dashboard so analysts can test new scenarios independently