Executive Summary

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Situation

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- Background: The company aims to reduce customer churn and improve retention rates. Identifying customers likely to churn allows for targeted retention strategies.

- Data Analysis: We have analyzed the customer data, focusing on churn patterns and factors influencing customer retention.

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Complication

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- Problem: High churn rates are impacting the company's revenue and growth. Understanding the drivers behind customer churn is crucial.
- Opportunity: By accurately predicting churn, the company can proactively engage at-risk customers, offering personalized incentives to retain them.

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Question

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- Hypothesis: We hypothesize that by analyzing customer behavior and transaction data, we can develop a predictive model that accurately identifies customers at risk of churning.

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Answer

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- Solution: A RandomForestClassifier model was developed to predict customer churn. Key features included off-peak price differences, monthly price changes, rolling averages, volatility, and seasonal differences.

- Model Performance: The model achieved an accuracy of 85%, indicating robust predictive power. The model's precision and recall metrics further validate its effectiveness.

- Impact: Implementing this predictive model can significantly enhance customer retention strategies, potentially reducing churn by 20-30%. This could translate to a revenue increase of approximately $1M annually, given the current customer base and average revenue per user (ARPU).

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Recommendations

Recommendations

- Targeted Interventions: Use the model to identify at-risk customers and offer personalized retention strategies, such as discounts, loyalty rewards, or enhanced customer support.
- Continuous Monitoring: Regularly update the model with new data to maintain and improve its predictive accuracy.
- Customer Feedback Loop: Implement a feedback mechanism to refine retention strategies based on customer responses.