Churn Prediction Analysis for PowerCo

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Identifying the Causes of Customer Churn

The 'churn' column indicates that approximately 9.72% of customers in the dataset have churned, while the remaining 90.28% have not. This distribution suggests a class imbalance, which is common in churn prediction scenarios.

Identifying the Causes of Customer Churn

The issue we are addressing is the customer churn at PowerCo.

Our objective is to identify the underlying reasons for this churn. By analyzing customer data and comparing it with the pricing structures of competing companies, we aim to understand the primary factors contributing to customer turnover."

Key Dataset Features Influencing Customer Churn

In this section, we explore the specific features within our dataset that most significantly influence customers' decisions to churn and switch to alternative providers.

These features provide critical insights into the factors driving customer behavior in the context of PowerCo's services.

Key Dataset Features Influencing Customer Churn

The correlation analysis provides insight into how different features in the dataset are related to customer churn. Here are some key observations

1.margin_net_pow_ele

2.margin_gross_pow_ele

3.origin_up_lxidpiddsbxsbosboudacockeimpuepw

Key Dataset Features Influencing Customer Churn

The feature importance analysis using a Random Forest classifier provides valuable insights into which features are most predictive of customer churn in your dataset. Here are the top 10 features, ranked by their importance:

1.cons_12m: Consumption of the last 12 months.

2.net_margin: Net margin.

3.forecast_meter_rent_12m: Forecasted meter rent for the next 12 months.

4.tiv: Months active

Key Dataset Features Influencing Customer Churn

5.forecast_cons_12m: Forecasted consumption for the next 12 months.

6.margin_net_pow_ele: Net margin on power.

7.margin_gross_pow_ele: Gross margin on power.

8.cons_last_month: Consumption in the last month.

9.pow_max: Maximum power.

10.imp_cons: Imputed consumption.

11.months_ac

Data Visualization

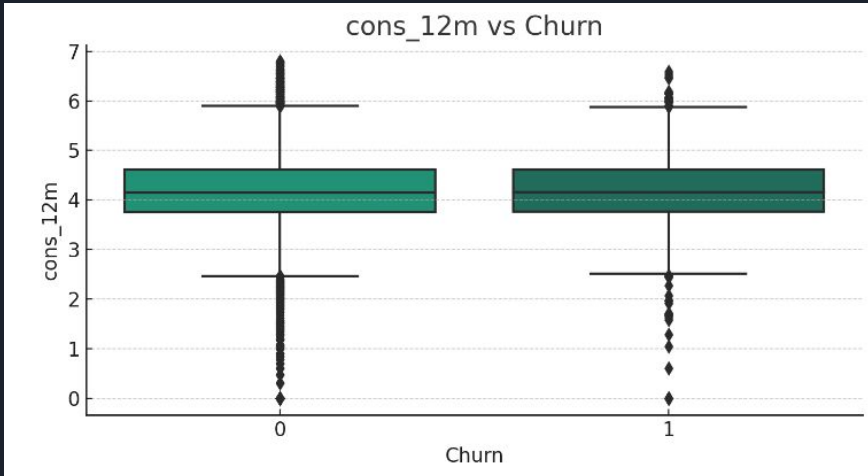
Uncovering Key Influencers of Customer ChurN

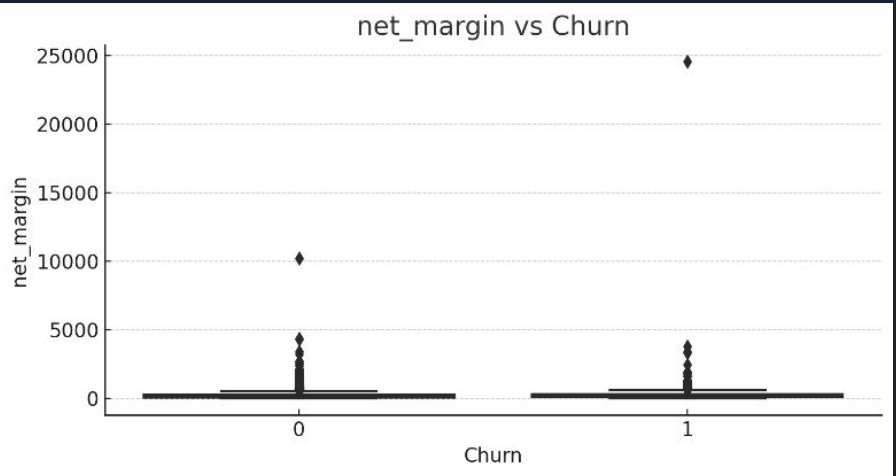
Presented below are various data visualizations that highlight the features most significantly impacting customer churn.

These visualizations offer insights into the patterns and trends that are crucial for understanding why customers are leaving.

Data Visualization

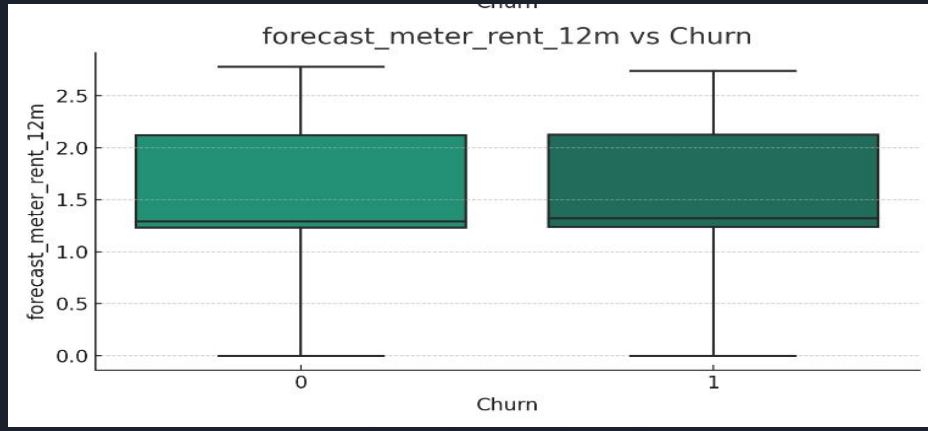
Uncovering Key Influencers of Customer ChurN

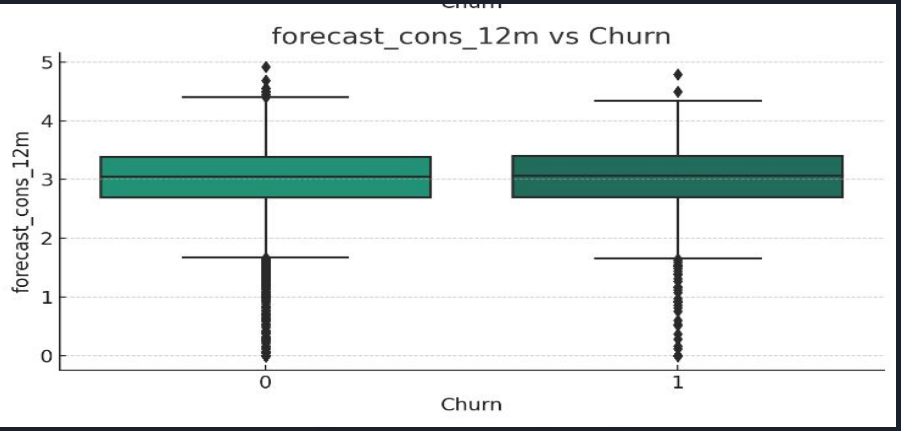




Data Visualization

Uncovering Key Influencers of Customer ChurN





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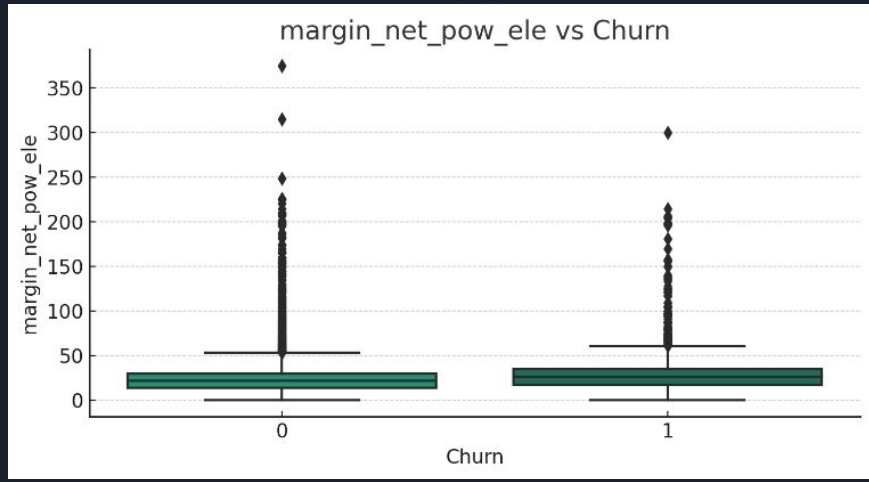
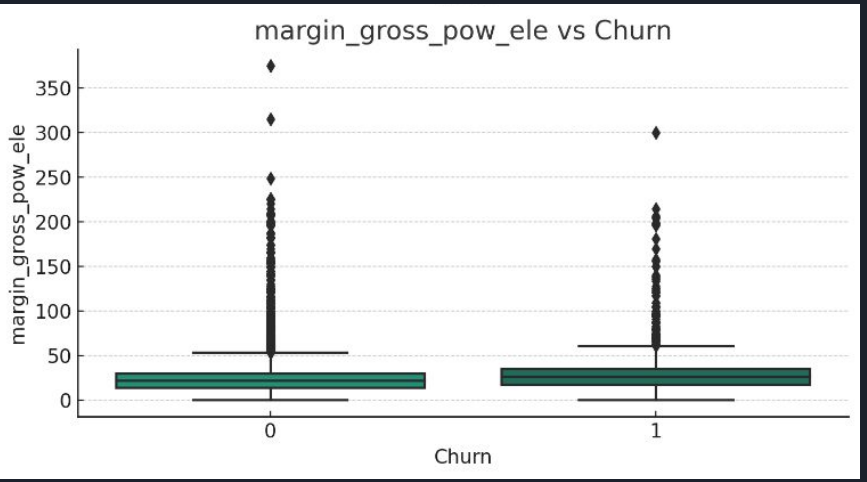
Uncovering Key Influencers of Customer ChurN





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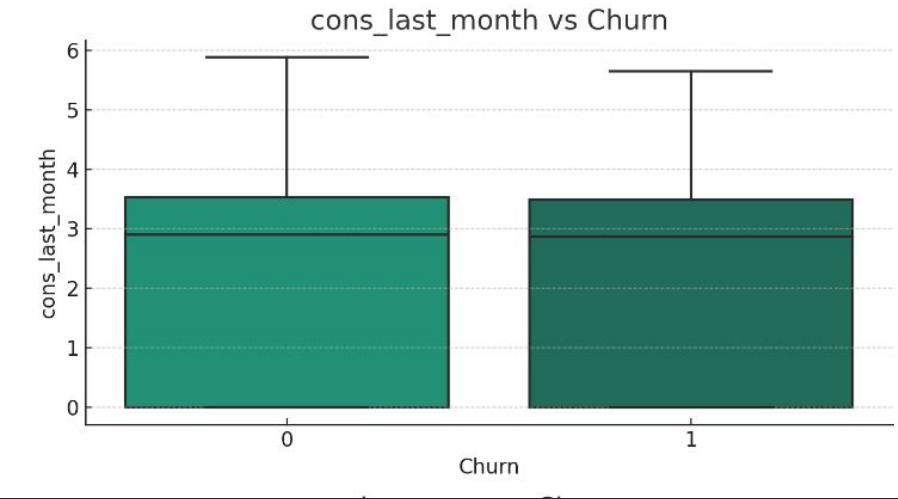

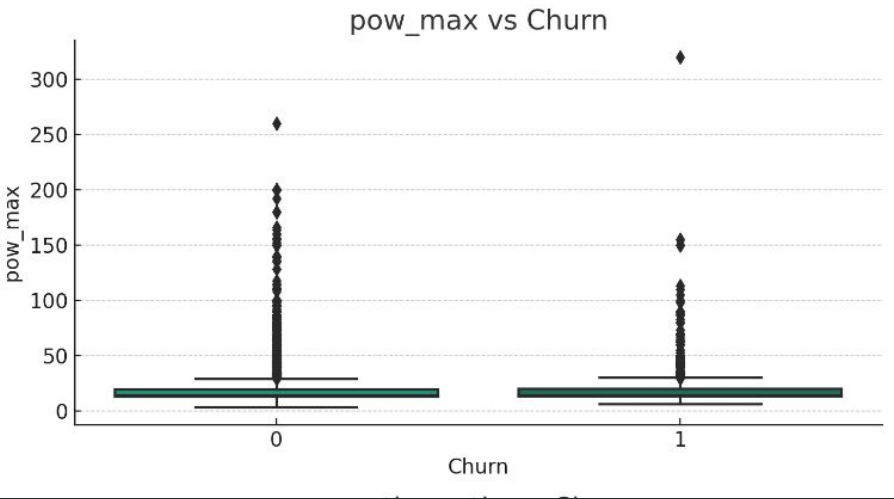

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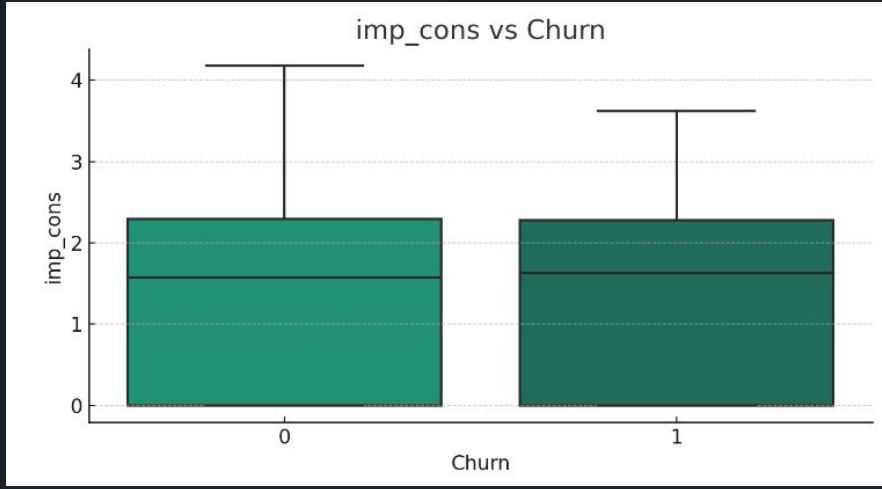

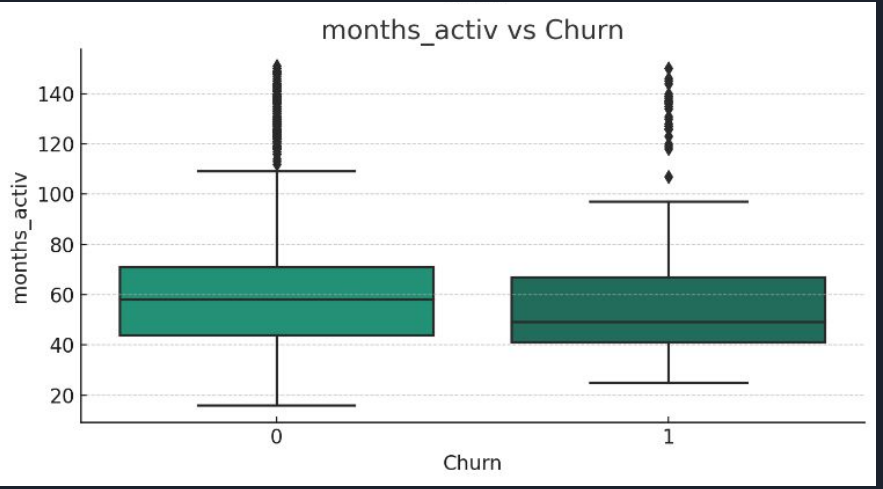

Key Insights and Strategies to Reduce Churn

Focus on Profit Margins: The margin_net_pow_ele and margin_gross_pow_ele show a positive correlation with churn. This suggests that higher margins might be linked to customer dissatisfaction. Review pricing strategies to ensure they are competitive and fair.

Customer Engagement: The channel_foosdfpfkusacimwkcsosbicdxkicaua channel shows a positive correlation with churn. Investigate this channel to understand potential issues in customer interaction and service quality.

Key Insights and Strategies to Reduce Churn

Long-Term Engagement: Features like months_activ (active months) and tenure have a negative correlation with churn, indicating that longer-term customers are less likely to churn. Focus on long-term customer engagement strategies, such as loyalty programs or long-term contracts with benefits.

Customer Origin: The negative correlation of origin_up_kamkkxfxxuwbdslkwifmmcsiusiuosws with churn suggests that the source of customer acquisition may impact churn. Investigate the characteristics of customers from different origins and tailor your retention strategies accordingly.

Key Insights and Strategies to Reduce Churn

Tailored Interventions: Use the insights from this analysis to develop targeted interventions. For instance, customers with shorter tenure or those engaged through certain channels might benefit from special attention or offers.

Monitoring and Adjustment: Continuously monitor the impact of these strategies on the churn rate. Be prepared to adjust your approaches based on what the data indicates.

Customer Feedback: Regularly collect and analyze customer feedback to identify areas of dissatisfaction that might not be evident from the data alone.