Telecom Churn Prediction Case Study

A Data-Driven Approach to Reduce Customer Churn

Presented by:

VAMSI SURE

SARAN G

VIBHUDENRA S

VINITA SHARMA

Date: 06-10-2024

Business Problem & Churn

- Telecom industry faces high churn (15-25% annually).
- Churn: Customers discontinue service without notice (usage-based).
- Objective: Predict and prevent churn to retain high-value customers.

Targeting High-Value Customers

- 80% of telecom revenue comes from the top 20% customers.
- Dataset spans 4 months, prediction based on first 3 months.
- Churn: Defined as zero calls and data usage in the last month.

Customer Lifecycle and Churn

- Good phase: Satisfied with normal usage.
- Action phase: Exploring competitors or facing service issues.
- Churn phase: Zero usage observed (calls/data).

Data Preparation & Features

- Feature Engineering: Derived usage metrics, recharge amounts, etc.
- Focused on top 30% high-value customers.
- Churn tagged based on zero usage in churn month.

Predictive Model & Insights

- Applied PCA for dimensionality reduction, Logistic Regression.
- Class Imbalance handled with SMOTE.
- Focused on recall to capture maximum churners.

Recommendations & Conclusion

- Provide loyalty offers for high-risk customers.
- Match competitors' recharge/data plans.
- Conclusion: Predictive models effectively identify churn risk.