

# CUSTOMER CHURN ANALYSIS FOR TELECOM COMPANY

Technical & Business Insights

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# PROJECT OBJECTIVE

- Business Goal: Identify high-risk customers likely to churn.
- Technical Goal: Build predictive models to classify churn risk.

# DATA OVERVIEW

- Data Period: June - September 2014
- Dataset Size: 99,999 records
- Churn Definition: No calls/data usage in September.

# CUSTOMER LIFECYCLE STAGES

- 1. Good Phase (June & July):  
Normal usage.
- 2. Action Phase (August):  
Dissatisfaction begins.
- 3. Churn Phase (September): No  
activity.

# DATA PREPARATION & FILTERING

- Focus: High-value customers (70th percentile of average recharge).
- Churn Tagging: No activity in September.
- Data Split: Excluded September data for training.

# MODEL BUILDING APPROACH

- Class Imbalance Handling: Used SMOTE.
- Models:
  - - Logistic Regression: Interpretability
  - - Random Forest: Accuracy

# MODEL EVALUATION

- Logistic Regression: Interpretable but needed more iterations.
- Random Forest: High predictive power.
- Metrics: Random Forest had higher accuracy.

## KEY FEATURES CONTRIBUTING TO CHURN

- Top Predictors:
  - - Monthly recharge
  - - Total outgoing minutes
  - - Data usage patterns
  - - Decrease in usage from July to August



# BUSINESS RECOMMENDATIONS

- Proactive Retention: Personalized offers, service improvements.
- Customer Engagement: Regular outreach during Action phase.

# SUMMARY & NEXT STEPS

- Summary: Identified churn predictors, high-risk customers.
- Next Steps: Deploy model, implement retention campaigns.