Customer Churn Storytelling Report

Business Context: Customer churn directly affects long-term revenue. Retaining existing customers is significantly cheaper than acquiring new ones. This report analyzes churn patterns and identifies actionable insights using logistic regression, which performed best among tested models.

1. Dataset Overview

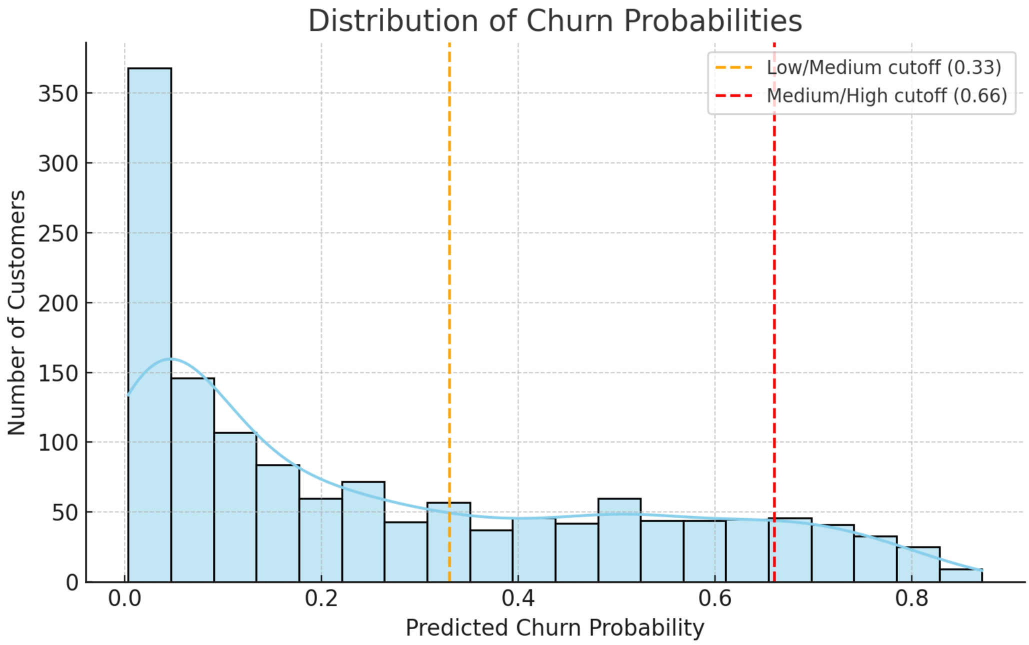
The Telco Customer Churn dataset includes customer demographics, account information, and service details. The target variable, *Churn*, indicates whether a customer left the company.

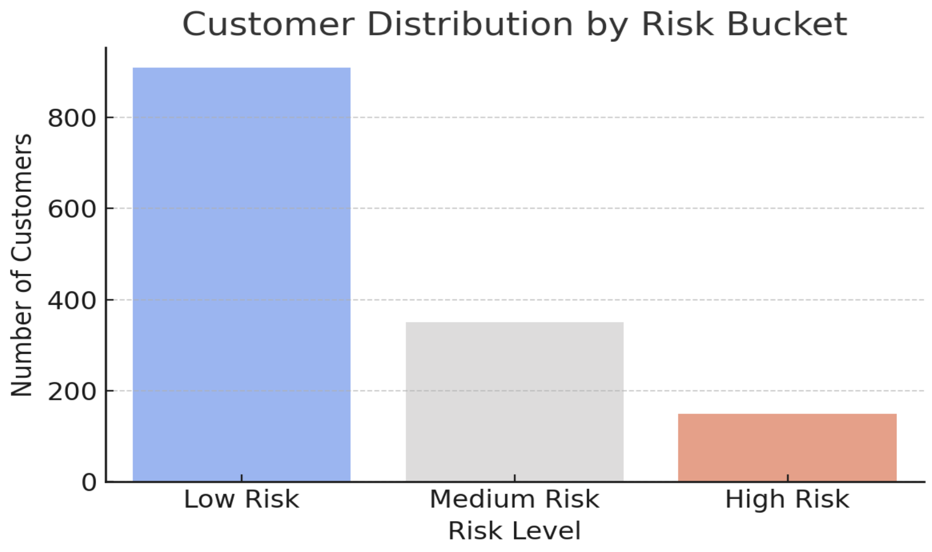
2. Modeling Summary

Multiple classification models were tested — Logistic Regression and Random Forest. Logistic Regression achieved the highest ROC-AUC score (~0.84) and was chosen for interpretability and performance balance.

3. Risk Segmentation Insights

Customers were categorized into Low, Medium, and High risk groups based on predicted churn probabilities. Most customers fall into the low-risk group, but high-risk customers show clear behavioral and contract-related patterns.





4. Key Findings

Customers on month-to-month contracts are at the highest risk of churn. Short-tenure customers (newer sign-ups) are more likely to leave. Higher monthly charges correlate with increased churn probability. Electronic check payment users churn more frequently than those on automatic payment methods.

5. Strategic Recommendations

Retention Campaigns: Target month-to-month customers with loyalty discounts or upgrade offers. **Customer Onboarding:** Enhance early-stage engagement to reduce churn among new customers. **Billing Optimization:** Encourage auto-pay methods by offering incentives. **Data Monitoring:** Continue updating the churn model monthly to track customer behavior trends.

Conclusion: The analysis shows that proactive retention strategies focused on at-risk segments can reduce churn and improve profitability. Logistic Regression provides interpretable insights that directly inform marketing and operational decisions.