

## Executive Summary

Model Answer

### Situation

PowerCo experiences 9.7% customer churn rate (~3,400 churning customers) that erodes margins and threatens long-term growth, with initial hypothesis suggesting price sensitivity as the primary driver of customer attrition.

### Complication


Analysis reveals price sensitivity only contributes 4-10% to churn probability, while true drivers are margin structure (correlation 0.80-0.98), problematic acquisition channels (Channel 4 & Origin 4 show 12%+ churn vs 6% average), and short customer tenure (0-12 months highest risk) - making blanket discount strategy ineffective and unprofitable.

### Question

How can PowerCo effectively reduce churn by addressing the actual drivers (margin optimization, channel reallocation, new customer engagement) while implementing predictive analytics for targeted retention campaigns that maximize ROI without eroding profitability through mass discounting?

### Recommended Solution

Deploy Random Forest predictive model with 90.4% ROC-AUC to identify 2,700+ high-risk customers monthly, enabling targeted retention interventions that can save €1.35M annual revenue through data-driven customer retention strategies.



## Actionable Recommendations

Model Answer

### Focus on Active Customers

- Prioritize retention budget on active high-risk customers (churn probability >60%, consumption >0) instead of inactive accounts to maximize campaign ROI by 10-20x.

### Fix Problematic Acquisition Channels

- Immediately audit or stop Channel 4 and Origin 4 (churn rate 12%+, 2x higher than average), then reallocate marketing budget to high-performing Channel 5 and Origin 0/2.

### Margin Optimization Over Price Cuts

- Avoid mass discount strategy since price sensitivity only impacts 4-10% of churn; focus on improving margin structure and value proposition without eroding pricing.

### Early Warning System for New Customers

- Implement intensive monitoring and engagement programs for customers in their first 0-12 months, using first-month consumption patterns as early churn warning indicators.

### Use Models for Targeted Campaigns

- Deploy predictive model monthly to segment 2,700+ high-risk customers into tiered interventions: 70%+ get account manager contact, 60-70% get loyalty rewards, 50-60% get energy-saving tips.

### Increase Customer Engagement

- Develop engagement initiatives (usage dashboards, personalized recommendations, service bundling) specifically targeting customers with declining or low consumption patterns to improve retention.

### Contract Renewal Strategy

- Proactively contact customers 2-3 months before contract expiration with retention offers, intercepting them before they evaluate competitor alternatives.

### Expected Business Impact

- Implement intensive monitoring and engagement programs for customers in their first 0-12 months, using first-month consumption patterns as early churn warning indicators.