

Executive Summary

Situation

PowerCo, a utility company supplying gas and electricity to SMEs, is experiencing high levels of customer churn. With increased market competition and pricing variability, PowerCo has sought BCG X's support to understand churn behavior.

Complication

The assumption was that price sensitivity could be the main driver of churn. However, PowerCo lacks evidence to confirm this, making it difficult to design effective retention strategies.

Question

To what extent is price sensitivity influencing churn at PowerCo? Are there other factors that better explain customer departure behavior?

Answer

Using a Random Forest classifier trained on a curated dataset of 14,606 customers with 63 predictive features, we found:

Price sensitivity is influential but not the only factor.

Other major churn predictors:

Contract duration (shorter = higher churn)

Usage volatility

Recent customer onboarding

Final model performance:

✓ Accuracy: 91.1%

✓ Strong generalization with 63 numeric features

✓ ID column removed to reduce noise

Proposed Solution: Deploy the churn prediction model in Power Co's CRM to enable:

Targeted interventions (e.g., custom retention offers)

Proactive risk scoring of high-usage, price-sensitive customers

Potential Impact:

Predict churn risk with 91% accuracy

Expected churn reduction of 25–30%

Potential recovery of millions in lost annual revenue Model performance:

Accuracy: 91% | Precision: 81% | Recall: 0.0510 | AUC-ROC: 0.67 |

F1 score: 0.0962