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PLTelco **Customer Churn Prevention**

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PLTelco must identify the root causes of customer churn and develop effective strategies to drive long-term retention

Client Intro - PLTelco



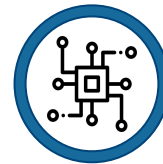
- **PLTelco** is a Poland-based **telecom provider competing in** a dynamic and highly saturated **telecommunications market**.
- Recently, **PLTelco** has **experienced higher**-than-usual **customer churn**, which may impact long-term revenue and growth.
- PLTelco's **primary objectives** are to **uncover the main drivers of churn**, **receive** strategic **recommendations for improving** its service **offering**, and **implement a predictive model** to proactively identify at-risk customers.

Project Scope



Identifying Key Drivers

Which customer segments are most at risk—and why are they leaving?



Churn Prediction Model

Anticipating which customers are likely to leave—before they do.



Strategic Recommendations

Targeted strategies to improve retention and enhance customer value.

Analyzing the right customer-related variables can reveal key insights into the underlying drivers of churn

Key Variables



Customer Demographics

Gender, Seniority, Partner, Dependents



Services Subscribed

Phone, Internet, TV, Back Up, etc.



Account Information

Tenure, Contract, Payment Method, Monthly Charges



Target

Current Churn rate is 27%.

Approach

1

ETL Pipeline

Modular preprocessing to clean, transform, and organize data for downstream tasks.

2

EDA

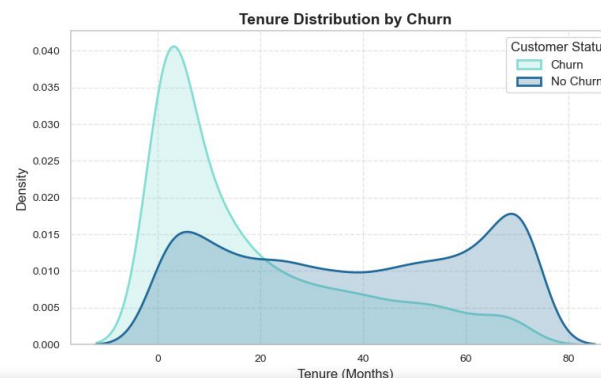
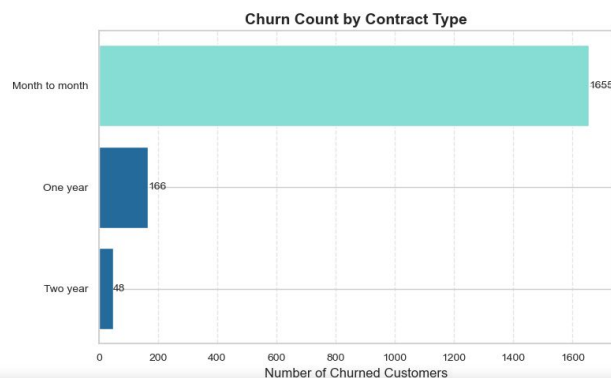
Unlocking insights to better understand customer churn.

3

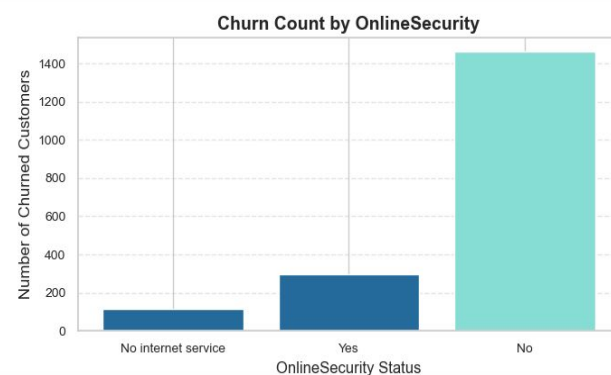
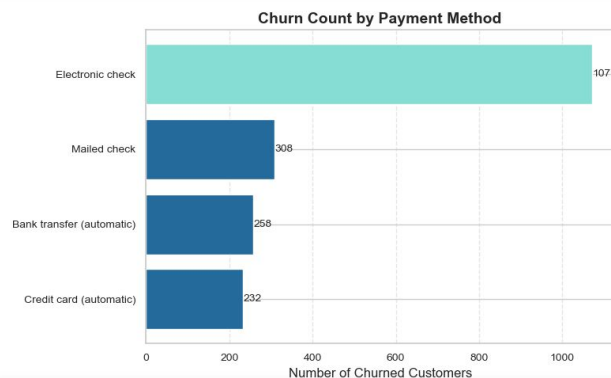
Feature Importance

Identifying the variables that have the greatest impact on churn prediction.

Customer churn strongly correlates with contract duration, chosen payment method, and adoption of value-added services



Customers on **month-to-month contracts** exhibit notably **higher churn rates** compared to those on longer-term plans. Additionally, **churn** tends to **peak between the 8th and 12th month** of tenure.



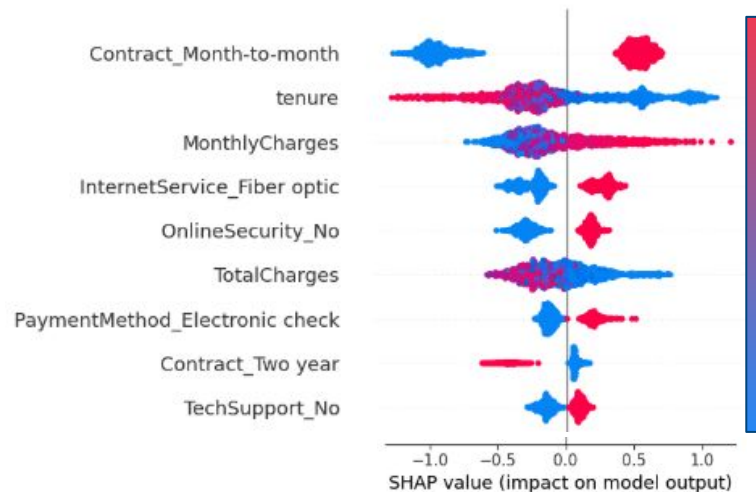
Churn rates are significantly **higher among** customers who use **electronic check payments** instead of automated payment methods.

Customers who **haven't subscribed to the Online Security add-on** tend to be less engaged and **exhibit higher churn rates**.



Feature importance reinforces that promoting longer-term plans and increased adoption of value-added services may help lower churn

Feature Importance with SHAP



Contract Type: Monthly contracts are strongly **linked to higher churn**. Encouraging users to choose **longer-term plans** could improve retention.

Monthly Charges: Higher fees increase churn risk, indicating price sensitivity among users.

Value-Added Services: Customers without Online Security or Tech Support are **more likely to churn**, likely due to lower engagement. Promoting these features may help retain users.

Easy Ensemble - Tool to identify churners



The model prioritizes recall for churners and **successfully identifies 79% of actual leavers**. While this comes at the cost of some false positives, **it aligns well with our project goals**: proactively **engaging potential churners** is **less risky** and **more cost-effective than failing to detect those likely to leave**.

Engaging high-risk customers with timely, personalized service offerings can help convert potential churners into loyal users

Incentivize Long-Term Contracts

Introduce **targeted upgrade incentives** for month-to-month customers—such as **discounted first 3 months, free device protection, or loyalty bonuses**—to **motivate a shift toward 1–2 year contracts** and improve retention.

Promote AutoPay

Promote auto-pay enrollment with small incentives (e.g., **25 PLN discount on first auto-paid bill**).
Run educational campaigns explaining the benefits of automated payments (e.g., convenience, fewer billing issues).

Target the Churn-Risk Window

Introduce **proactive retention campaigns** (e.g., **check-in calls, loyalty rewards**, or service upgrade offers) **during this window** to increase stickiness.

Boost Engagement Through VAS

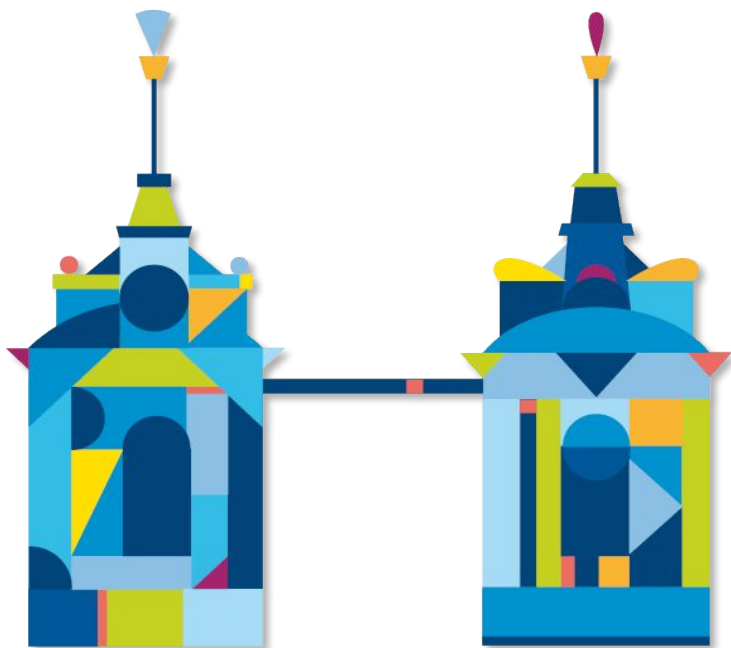
Create bundled offerings where **Online Security, Tech Support**, or similar services are **included at a small additional cost**.
Offer free trial periods (e.g., 1 month of Tech Support for new customers or at-risk segments).

Address Price Sensitivity

Provide personalized **plan reviews for high-paying customers based on usage patterns** to optimize their service usage and pricing.
Offer loyalty discounts or bonus data/minutes to long-tenure customers with high monthly fees.

Proactive Retention Campaigns

Use the model to flag at-risk users and **trigger** personalized **retention actions** such as push **notifications, special offers**, or account manager outreach.



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