

Executive Summary – Customer Churn Analysis

The analysis focuses on understanding customer churn patterns, identifying key reasons for attrition, and exploring customer demographics and service usage trends. The dataset consists of **7,043 customers**, with details on demographics, service subscriptions, contract types, and payment methods.

Key Insights

1. Churn Rate

- The dataset shows a notable churn percentage (customers leaving the service).
- A large portion of churned customers are on **month-to-month contracts**, suggesting short-term commitments increase churn risk.

2. Demographics & Churn

- **Senior citizens** have a higher churn rate compared to younger customers.
- Customers without partners or dependents are more likely to churn.

3. Service & Churn Correlation

- Customers with **Fiber optic internet** churn more compared to DSL users.
- Lack of additional services like **Online Security** or **Tech Support** is strongly associated with higher churn.

4. Tenure Effect

- Newer customers (low tenure) are significantly more likely to churn.
- Long-term customers show stronger retention rates.

5. Payment Methods & Billing

- Customers paying via **Electronic check** have the highest churn rate.
- **Paperless billing** also has a slight correlation with higher churn.

6. Charges & Churn

- Customers with higher **Monthly Charges** tend to churn more, possibly due to perceived value or affordability concerns.

Visualizations

The notebook includes clear and informative charts illustrating:

- Churn distribution across contract types, internet services, and tenure groups.
- Customer demographics breakdown.
- Service adoption and its relationship to churn.

Strategic Recommendations

- **Promote long-term contracts** with attractive discounts to reduce month-to-month churn.
- **Upsell protective services** like Online Security & Tech Support to increase customer stickiness.
- **Engage new customers early** with onboarding offers and proactive support.
- **Review Fiber optic service quality** to address higher churn in that segment.
- **Reassess pricing structures** for high-charge customers to improve retention.