



Executive Summary: ***Customer Churn Analysis***

This analysis investigates key factors influencing customer churn in a telecommunications dataset of over 7,000 records. Through detailed visualizations and feature-wise comparisons, the following insights emerged:

1. **Overall Churn Rate:**

Approximately **26.5% of customers have churned**, highlighting a significant portion of customers discontinuing services.

2. **Demographics & Tenure:**

- **Senior citizens** show a **higher churn rate** compared to younger customers.
- Customers with **shorter tenures (1–2 months)** are more likely to churn, while long-term users exhibit stronger loyalty.

3. **Contract Type & Retention:**

- Customers on **month-to-month contracts** are the most likely to leave.
- **One-year and two-year contracts** substantially reduce churn, suggesting the need for **incentives to promote long-term contracts**.

4. **Service Usage Patterns:**

- Retained customers often have **multiple services** such as **Phone Service, DSL Internet, and Online Security**.
- Lack of **Online Backup, Tech Support, or Streaming TV** correlates with higher churn — indicating that **bundled service packages** could improve retention.

5. **Payment Method Insights:**

- **Electronic check payments** show the **highest churn rates**.
 - Customers using **automatic bank transfers or mailed checks** are generally more stable, suggesting **payment method influences customer loyalty**.
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Strategic Recommendations

- Encourage long-term commitments through **discounts or loyalty programs** for 1–2 year contracts.
- Promote **value-added service bundles** (e.g., security + tech support) to increase customer engagement.
- Investigate **pain points in electronic payment methods** and enhance user trust in billing processes.
- Develop **targeted retention strategies** for senior citizens and new customers during the first few months