

# Summary and Recommendations

The analysis of **7,043 telecom customers** provides insights into the key drivers of **customer churn**, helping to identify patterns and actionable retention strategies.

## 1. Overall Churn Rate

- The dataset shows that approximately **26.5% of customers have churned**, while **73.5% remain active**.
- This highlights a **significant retention challenge**, with nearly **1 in 4 customers leaving the company**.

## 2. Demographic Insights

- **Senior Citizens** (16% of total customers) exhibit a **churn rate of ~42%**, nearly **double** that of non-senior customers (~24%).
- Customers **without partners or dependents** are more likely to churn (**33–35%**) compared to those with family commitments (**15–20%**).

## 3. Service-Related Insights

- Customers **without additional internet-based services** (like *OnlineSecurity*, *TechSupport*, or *DeviceProtection*) churn at **45–50%**, whereas those subscribed to these services churn at only **15–20%**.
- Among internet types:
  - **Fiber optic users** churn at **42%**, much higher than **DSL users (18%)**.
  - Customers with *no internet service* have the **lowest churn (7%)**.
- Customers with **multiple add-on services** (like *StreamingTV* or *StreamingMovies*) tend to have a lower churn rate (**<20%**).

## 4. Contract and Payment Behavior

- Contract duration plays a critical role:
  - **Month-to-month customers** churn at **43%**.
  - **One-year contract** holders churn at **11%**, and **two-year** at just **3%**.

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- **Paperless billing** customers churn at **34%**, compared to **19%** for those receiving paper bills.
- **Electronic check payments** show the highest churn (**45%**), while customers using **automatic bank or credit card payments** churn significantly less (**15–18%**).

### 5. Financial Patterns

- Churned customers pay **higher monthly charges** on average (**\$74 vs. \$61** for retained customers).
- However, **long-term customers** (tenure > 2 years) show strong loyalty, with churn dropping below **10%**.

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### Key Takeaways

- **High-risk segments:** Month-to-month contracts, fiber optic users, and customers lacking security/support services.
- **Retention levers:**
  - Promote **bundled service packages** (security + tech support).
  - Encourage **long-term contracts** through loyalty incentives.
  - Reduce churn among **senior and single customers** via personalized offers or support.
- Overall, **engagement, convenience, and service bundling** are the strongest predictors of customer retention.