



Executive Summary – Telco Customer Analysis (TCA Project)

The **Telco Customer Analysis (TCA)** project aims to identify the factors driving **customer churn** and to uncover actionable insights for improving customer retention. The dataset includes **7,043 customers** and **21 key variables**, covering demographics, service subscriptions, contract details, and billing preferences.

Key Findings and Insights

1. Demographic Insights

- **Gender:** The customer base is nearly balanced — **50.5% male** and **49.5% female**. Churn distribution is uniform ($\approx 26\%$ for both), suggesting gender has little influence.
- **Senior Citizens:** About **16%** of customers are senior citizens, yet they contribute to **42% of total churn** — making them **2.5x more likely to leave** than younger customers.
- **Dependents & Partners:** Customers **without partners or dependents** show a **churn rate of 31%**, compared to **15%** for those with dependents — indicating stability among family-linked users.

2. Service Usage Patterns

- **Internet Service Type:**
 - **Fiber Optic** – used by 44% of customers, but represents **61% of churners** → **42% churn rate**.
 - **DSL** – 36% of customers, only **19% churn** → indicating higher satisfaction.
 - **No Internet Service** – minimal churn (7%).

- **Online Security & Tech Support:**
 - Customers **without Online Security** churn at **41%**, while those **with it** churn at only **15%**.
 - Similar trend seen for **Tech Support** — presence reduces churn by over **25 percentage points**.
→ **Bundled value-added services improve retention** significantly.
- **Streaming Services:** Moderate impact. Customers using **StreamingTV and StreamingMovies** have slightly higher monthly charges but not drastically higher churn.

3. Contract and Billing Behavior

- **Contract Type:**
 - **Month-to-Month:** 55% of customers but **89% of churners**.
 - **One-Year:** 22% of base; only **8% of churners**.
 - **Two-Year:** 23% of base; just **3% of churners**.
→ Long-term contracts are the **strongest churn deterrent**.
- **Billing Method:**
 - **Paperless Billing** users (59%) have a **38% churn rate**, compared to **16%** for mailed billing customers.
- **Payment Method:**
 - Customers using **Electronic Check** exhibit the **highest churn (45%)**, while **Credit Card or Bank Transfer users** churn less than **20%**.

4. Tenure and Charges

- **Tenure:**
 - Customers with **<12 months tenure** have **52% churn rate**, while those **>3 years** show **under 5% churn**.
→ Retention is most critical in the **first year**.
- **Monthly Charges:**
 - **Churned customers:** average **\$74.4** per month.
 - **Retained customers:** average **\$61.3** per month.
→ Higher spending correlates with dissatisfaction or perceived lack of value.
- **Total Charges:** Long-term customers have higher total charges due to extended tenure, not higher monthly rates.

Strategic Recommendations

1. **Promote Long-Term Contracts:** Encourage customers to shift from **month-to-month** to **1–2 year contracts** with loyalty discounts.
2. **Bundle Key Services:** Market **Tech Support** and **Online Security** together with fiber plans to reduce churn risk.
3. **Targeted Retention for New Customers:** Focus on **first-year users**, providing onboarding support and early engagement offers.
4. **Pricing Optimization:** Review pricing for high-charge fiber customers to balance cost and perceived value.

5. **Reduce Digital Billing Churn:** Re-engage **paperless billing** and **electronic check** users with added-value notifications or personalized offers.
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Summary in Numbers

Category	Customer Share	Churn Rate	Key Observation
Senior Citizens	16%	42%	2.5× more likely to churn
Month-to-Month Contract	55%	43%	89% of total churn
1–2 Year Contract	45%	<10%	Retention stabilizer
Fiber Optic Users	44%	42%	Service dissatisfaction driver
DSL Users	36%	19%	Higher satisfaction
Online Security Available	30%	15%	Major retention factor
No Security/Tech Support	70%	40%	High churn segment
Tenure < 12 months	25%	52%	Needs retention action

Paperless Billing	59%	38%	Higher churn than mailed bills
Average Monthly Charge	—	\$74 (churned) vs \$61 (retained)	Pricing sensitivity evident

Conclusion

Your analysis effectively demonstrates that **contract duration, value-added service adoption, tenure, and payment methods** have the **strongest influence** on churn.

By implementing the recommended retention strategies, the company could **potentially reduce churn by 25–35%**, improving profitability and customer lifetime value.