

Telecom Customer Churn Analysis

Identifying Revenue Risk & Strategic Retention Opportunities

Dataset Summary

This project is based on a fictional telecom dataset of **7,043 customers in California**, including details on demographics, services, billing, and churn status.

The goal: Analyze churn behavior, identify revenue risk, and recommend actionable retention strategies.

 **Tools:** Power BI, DAX, Power Query

 **Created by:** Naveen Saxena

 **July 2025**

Executive Summary – Churn & Revenue Snapshot

[Churn Demographics →](#)

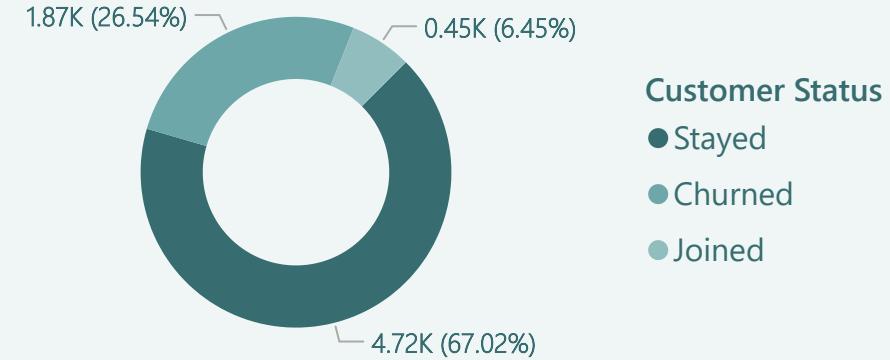
Gender	Contract	Internet Service	City
Male	Monthly	Yes	All
Female	One Year	No	<input type="button" value="Reset Filters"/>

Total Customers Total Revenue Churn Rate %

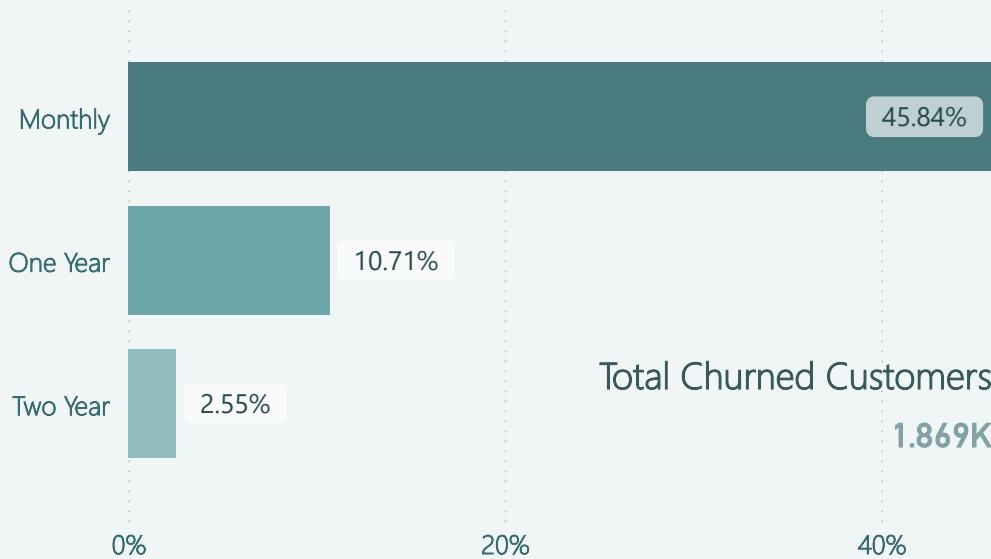
7K **\$21.37M** **26.54%**

Revenue Lost to Churn
\$3.68M

Churn Breakdown – Who Stayed, Left, or Joined



Which Contract Types Are Losing Customers?



Total Churned Customers

1.869K

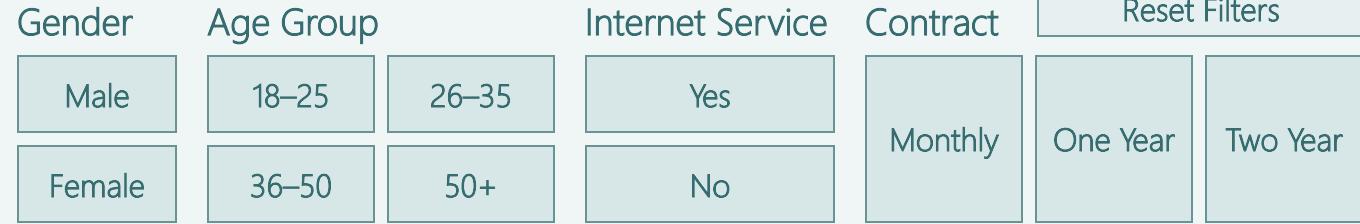
As of Q2 2022, the churn rate stands at 26.5%, with over 3.6 million in revenue lost. Customers on monthly contracts and with short tenures are the most likely to churn.

Churn Risk by Customer Tenure



[← Overview](#)

Who's Churning? Demographic & Payment Patterns

[Churn Drivers →](#)
🔥 Highest Churn Age Group

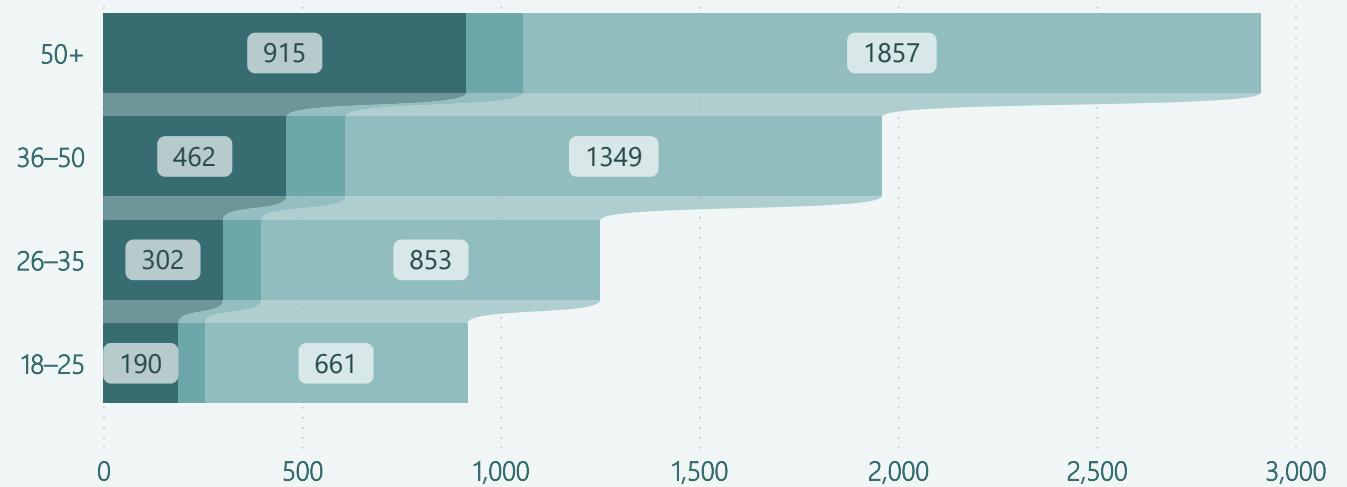
💸 Avg Monthly Spend
(Churned)

50+

\$73.35

Customer Age Demographics vs Churn

Customer Status: ● Churned ● Joined ● Stayed



Mailed Check

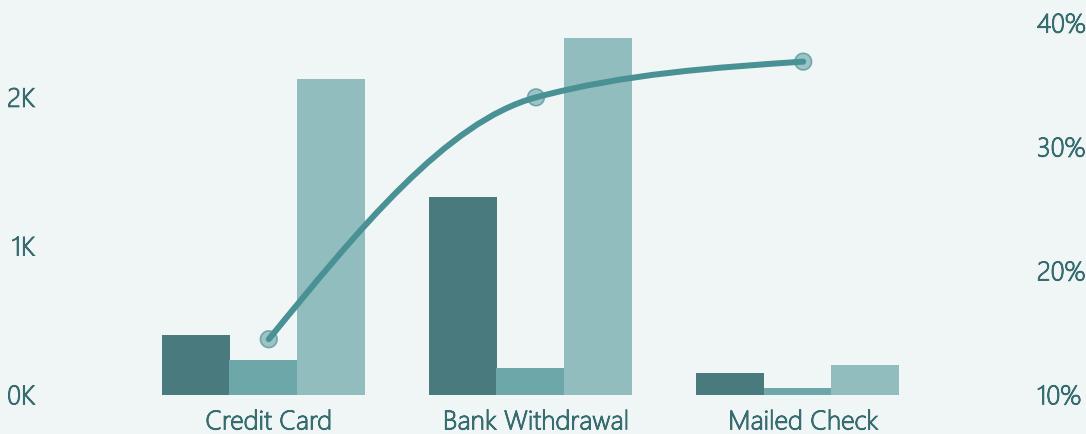
Monthly Spending Patterns by Customer Type



💡 **Insights:** High-paying, older customers are churning at greater volume — especially those using manual payment methods like Mailed Check, signaling a need for digital billing incentives.

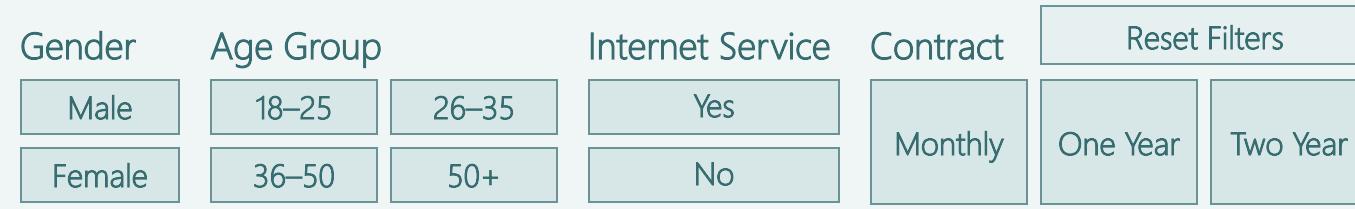
Billing Method Breakdown & Churn Trends

Customer Status: ● Churned ● Joined ● Stayed ● Churn Rate

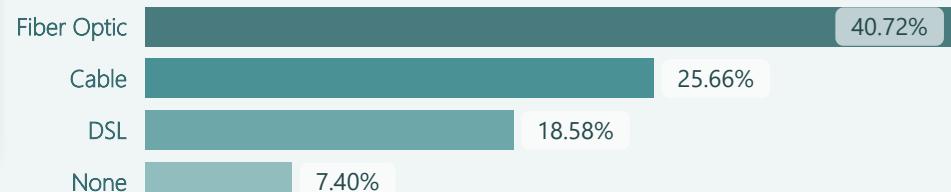


[← Churn Demographics](#)

What's Driving Churn? Services, Internet Plans & Offers

[Revenue Risk →](#)

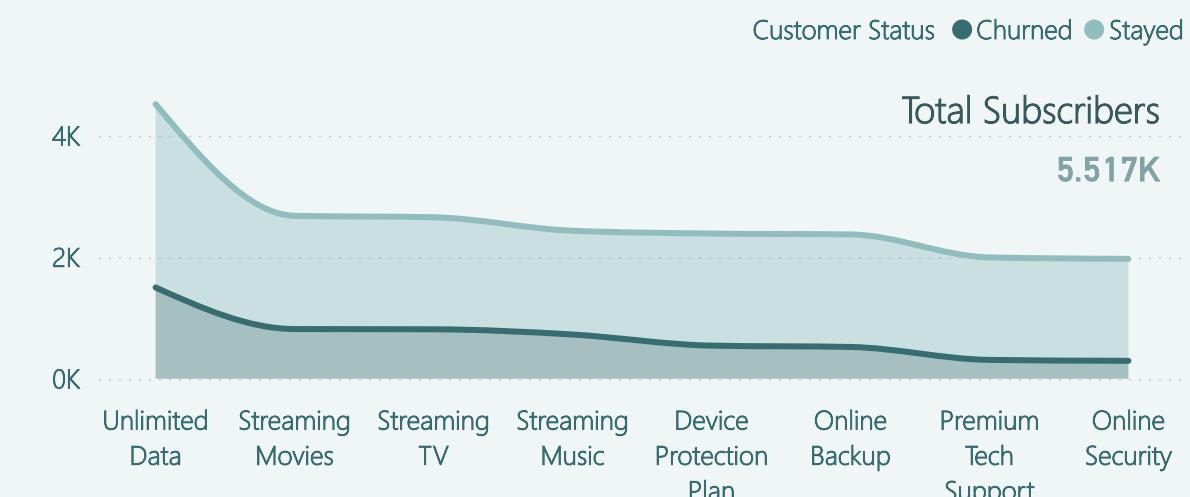
Internet Plan Type vs Churn Rate



Churn Risk by Number of Services Subscribed



Add-On Services Usage – Churned vs Retained

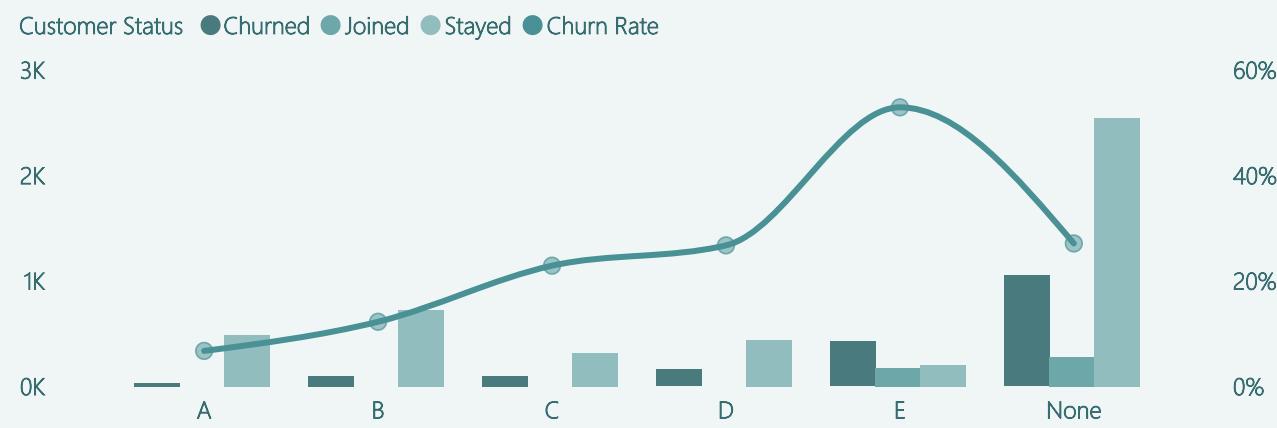


Primary Churn Triggers



💡 Customers with fewer than 3 services or using Fiber Optic internet show the highest churn risk. Support-related add-ons like Security & Tech Support are underutilized by churned users. Competitor-driven exits dominate, while offers like A & B show promise in retention strategy.

Offer Acceptance vs Churn Outcome



Key Insight:

Although just 25% of customers contribute the majority of revenue, they account for **over 50% of total churn revenue**. Many of these high-spending churners were **loyal long-term customers** (60+ months) with **One- or Two-Year contracts** — a clear signal that churn isn't just a short-tenure issue.

Risk Pattern:

The **highest churn rates** are seen in customers generating **less than \$1K in total revenue**, but the **real financial impact** comes from the **top revenue tier (\$8K+)**, where even a small churn rate leads to significant losses.

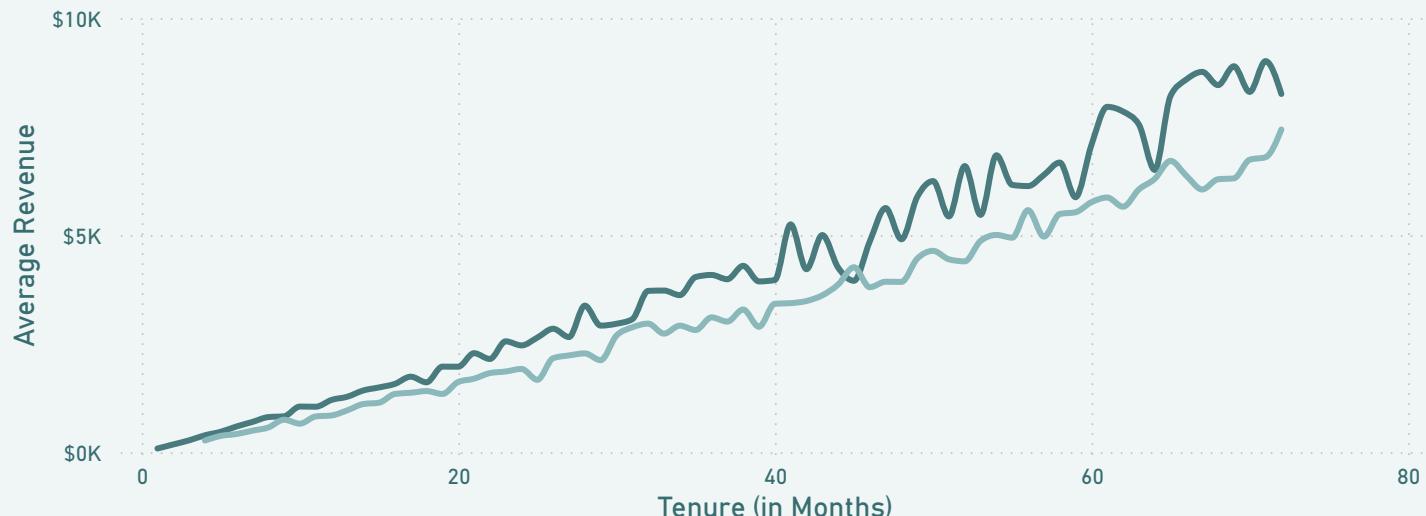
High-Value Churn Impact

Percent of Churn Revenue from Top 25% Spenders

50.22%

Average Revenue vs Tenure

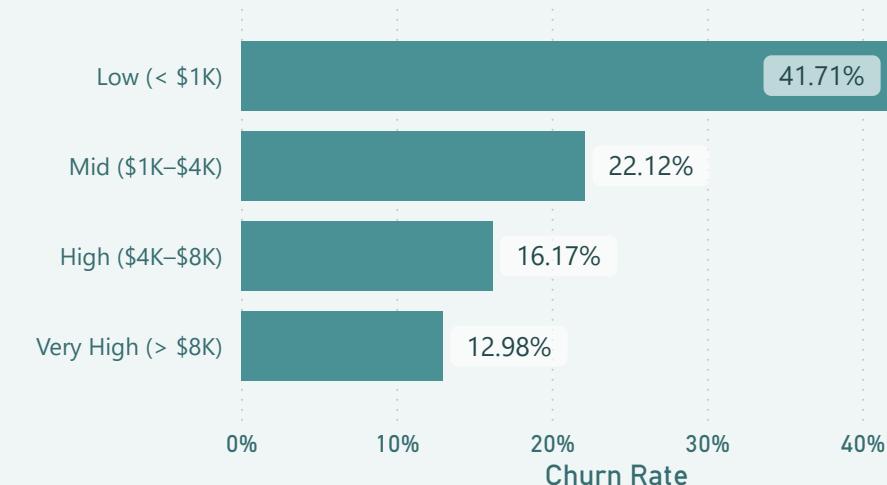
Customer Status ● Churned ● Stayed



Total Churn Revenue

\$3.68M

Which Revenue Segments Are Most at Risk?



Top 10 High-Revenue Churned Customers

Customer ID	Total Revenue	Monthly Charge	Tenure (in Months)	Contract Type
2889-FPWRM	\$11,195.44	\$117.80	72	One Year
3259-FDWOY	\$11,084.84	\$106.00	71	Two Year
2834-JRTUA	\$11,040.97	\$108.05	71	Two Year
1984-FCOWB	\$10,756.15	\$109.50	70	One Year
5287-QWLKY	\$10,718.96	\$105.10	71	Monthly
9835-ZIITK	\$10,717.17	\$110.85	66	One Year
5440-FLBQG	\$10,690.92	\$108.40	69	Two Year
9090-SGQXL	\$10,507.21	\$105.30	68	Monthly
0979-PHULV	\$10,374.80	\$99.45	69	Monthly
3886-CERTZ	\$10,351.16	\$109.25	72	One Year

Key Findings & Retention Strategy

Key Insights

- **Customer churn sits at 26.5%, with over \$3.6M in revenue lost,** heavily driven by **short-tenure, monthly contract users.**
- **Over 50% of lost revenue comes from just 25% of customers** — many of them **long-tenured, high spenders**, proving churn is not just an early lifecycle issue.
- **Competitors are the leading churn trigger**, cited more than all other reasons combined — mainly for **better pricing, download speed, or data offers.**
- Customers with **fewer than 3 services**, or those using **fiber optic plans**, exhibit significantly **higher churn risk.**
- **Add-ons like Security, Tech Support, and Protection Plans** are underutilized by churned users, pointing to missed retention opportunities.

Dataset Source: IBM Cognos Analytics via Maven Analytics

Structure: 39 fields | 2 tables | CSV | Public domain

Want to explore the data? [\[Dataset link\]](#)

Recommended Actions

-  **Launch retention offers** for high-value, long-tenure users — especially those on month-to-month plans.
-  **Promote add-on services** (support, protection) as loyalty perks during early tenure phases.
-  **Incentivize digital billing adoption** to reduce churn from manual payers.
-  **Audit fiber optic segment** to explore service quality or pricing issues.
-  **Personalize outreach** to older customers with simplified plans or concierge support.

This dashboard was built to support proactive retention strategies and reduce revenue leakage in the telecom space by identifying who's at risk — and what we can do about it.