

# Telecom Customer Churn Analysis

## Identifying Revenue Risk & Strategic Retention Opportunities

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### 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:** Pratiyush Kumar

 **July 2025**

# Executive Summary – Churn & Revenue Snapshot

Churn Demographics →

Gender

Male

Female

Contract

Monthly

One Year

Two Year

Internet Service

Yes

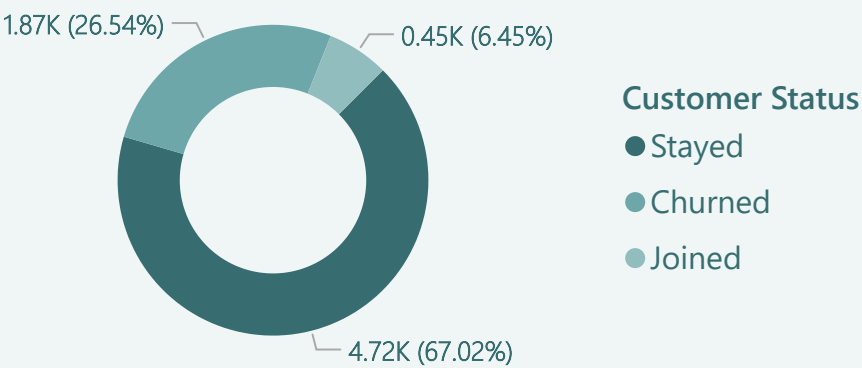
No

City

All

Reset Filters

## Churn Breakdown – Who Stayed, Left, or Joined



👤 Total Customers

7K

💰 Total Revenue

\$21.37M

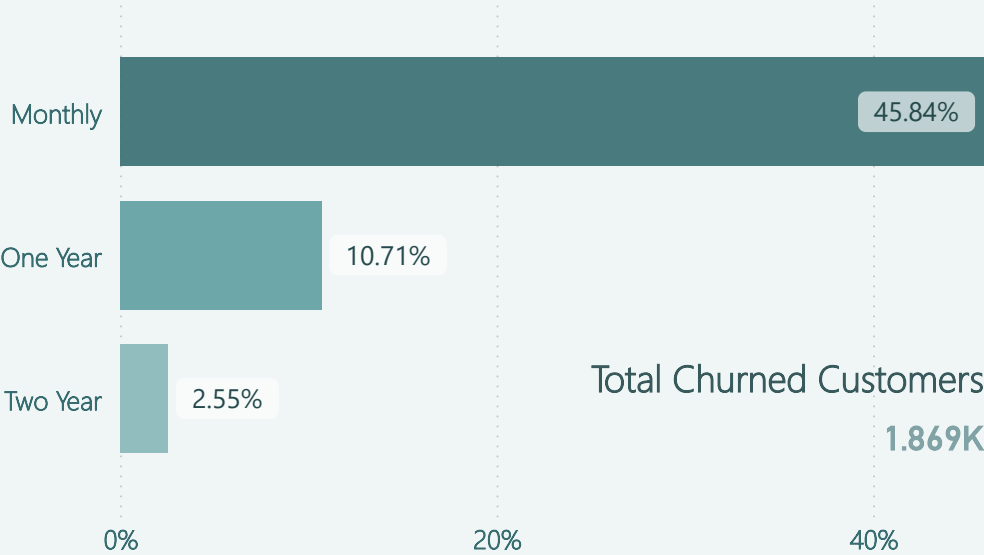
📉 Churn Rate %

26.54%

Revenue Lost to Churn

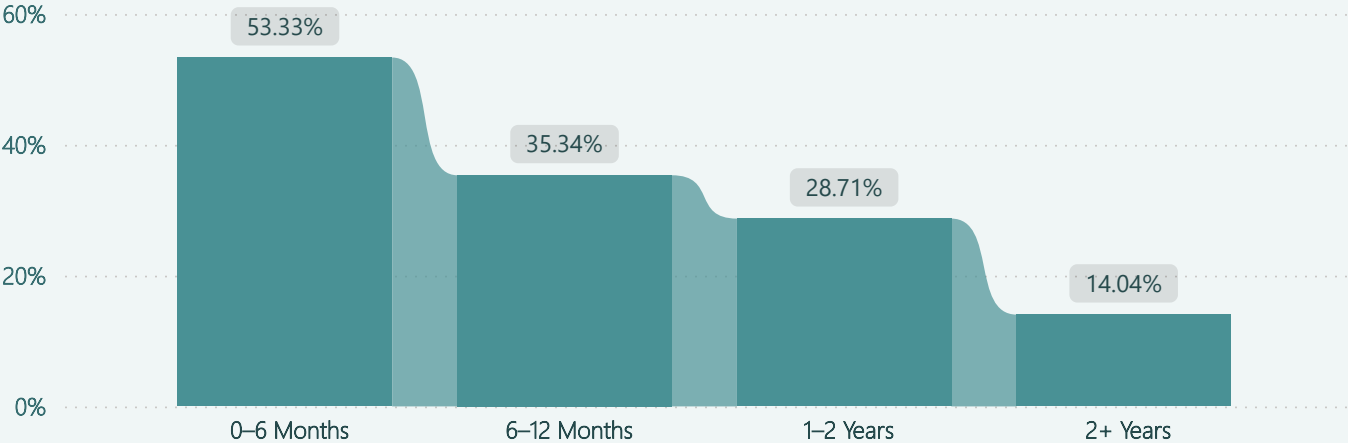
\$3.68M

## Which Contract Types Are Losing Customers?



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



Gender

Male

Female

Age Group

18–25

26–35

36–50

50+

Internet Service

Yes

No

Contract

Monthly

One Year

Two Year

Reset Filters

🔥 Highest Churn Age Group

50+

📊 Avg Monthly Spend (Churned)

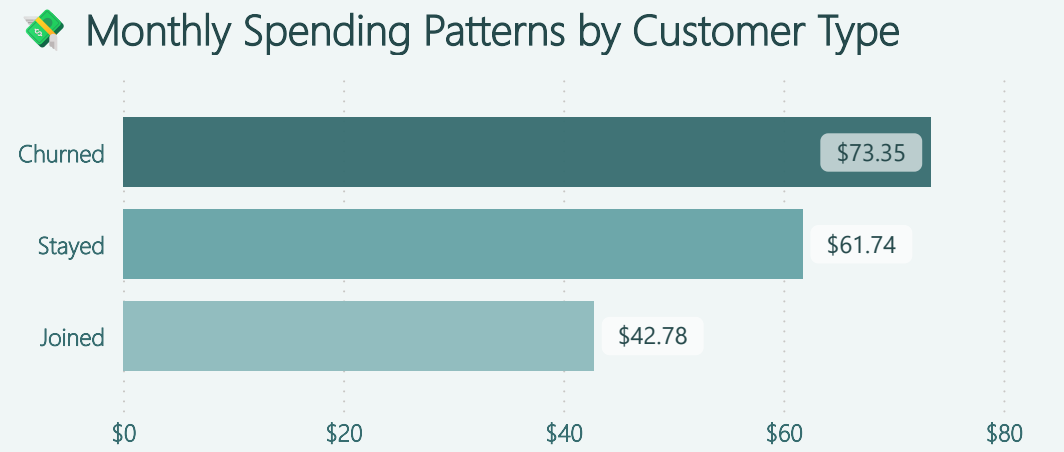
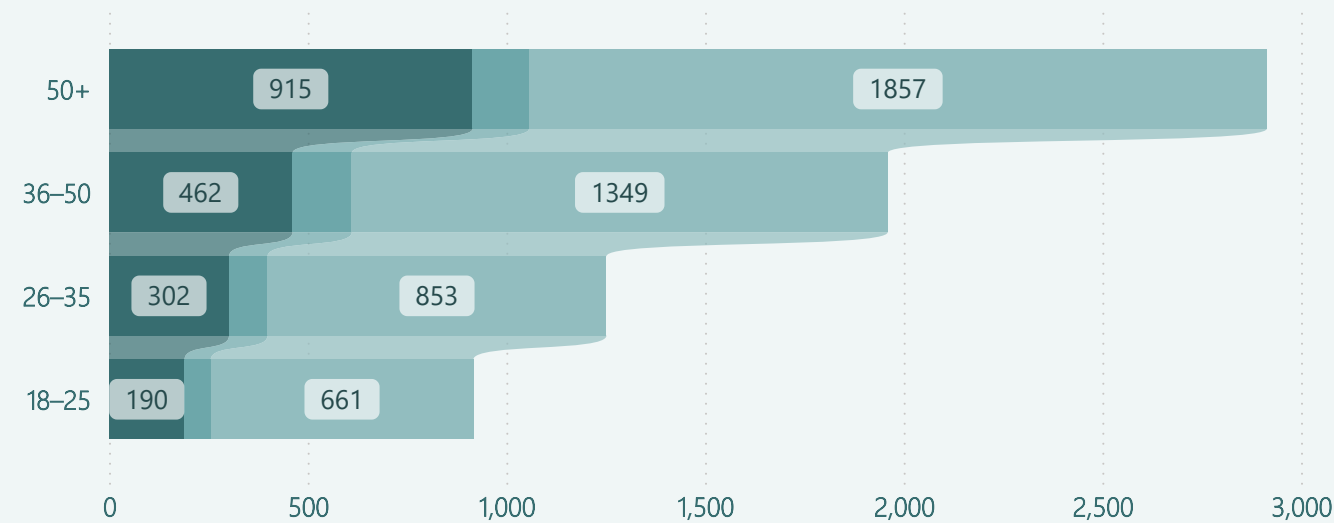
\$73.35

🏠 Highest Churn Risk (Payment)

Mailed Check

👥 Customer Age Demographics vs Churn

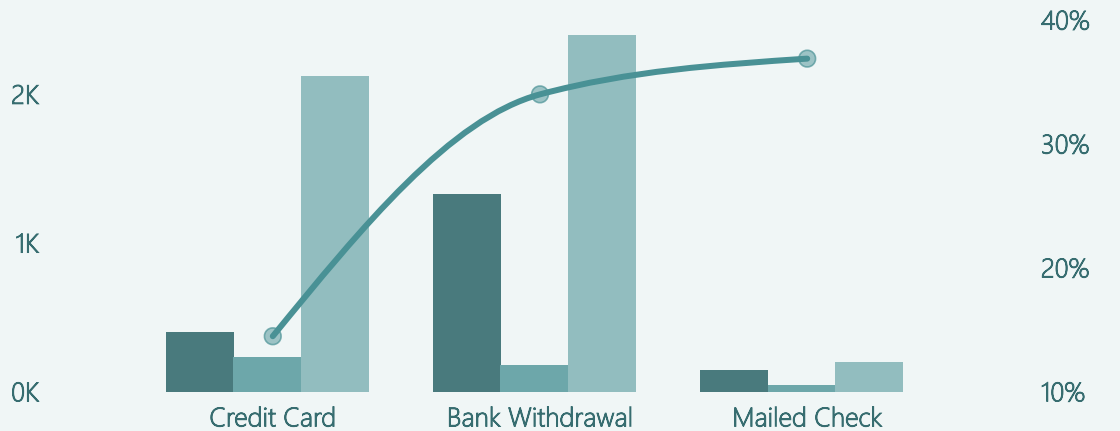
Customer Status ● Churned ● Joined ● Stayed



💡 **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



Gender

Male

Female

Age Group

18–25

26–35

36–50

50+

Internet Service

Yes

No

Contract

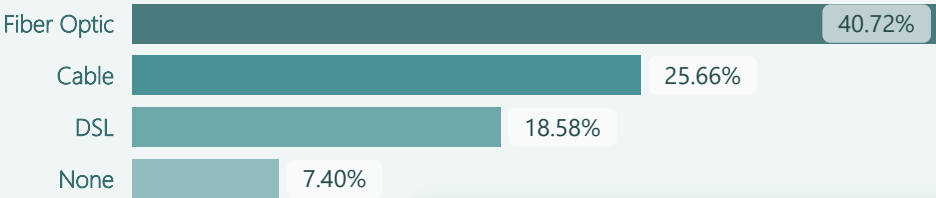
Monthly

One Year

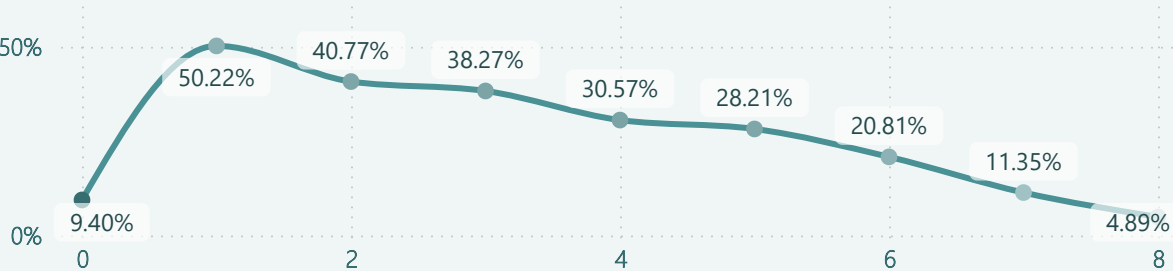
Two Year

Reset Filters

Internet Plan Type vs Churn Rate



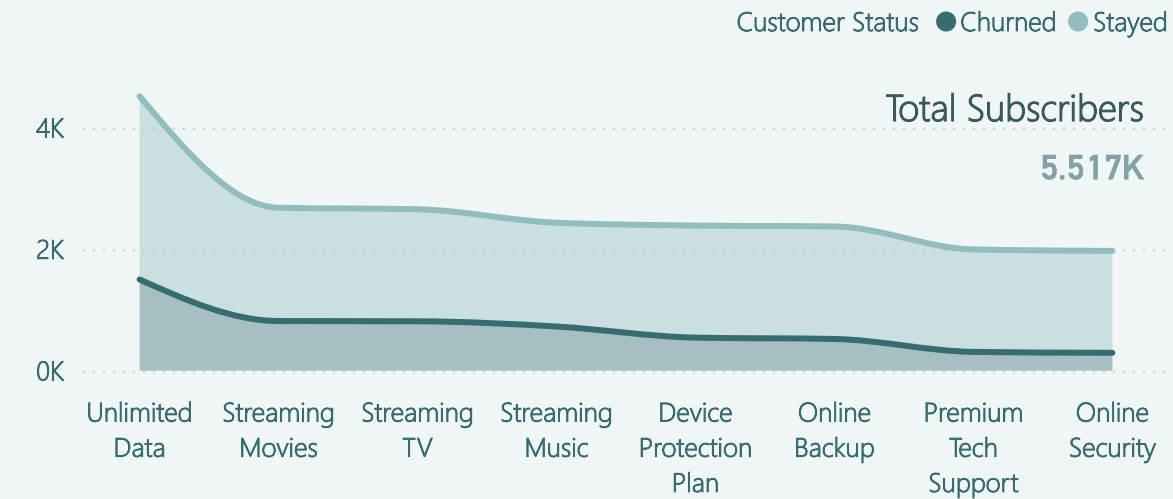
Churn Risk by Number of Services Subscribed



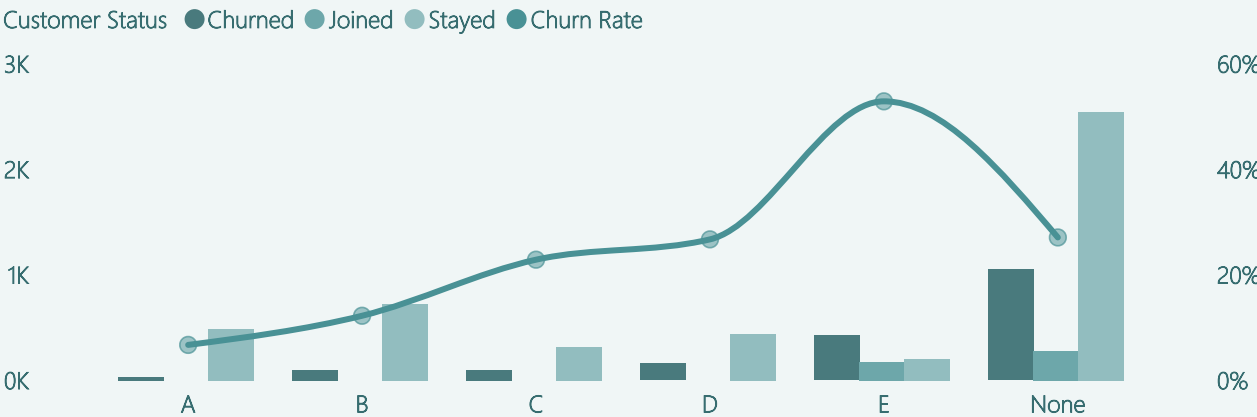
Primary Churn Triggers



Add-On Services Usage – Churned vs Retained



Offer Acceptance vs Churn Outcome

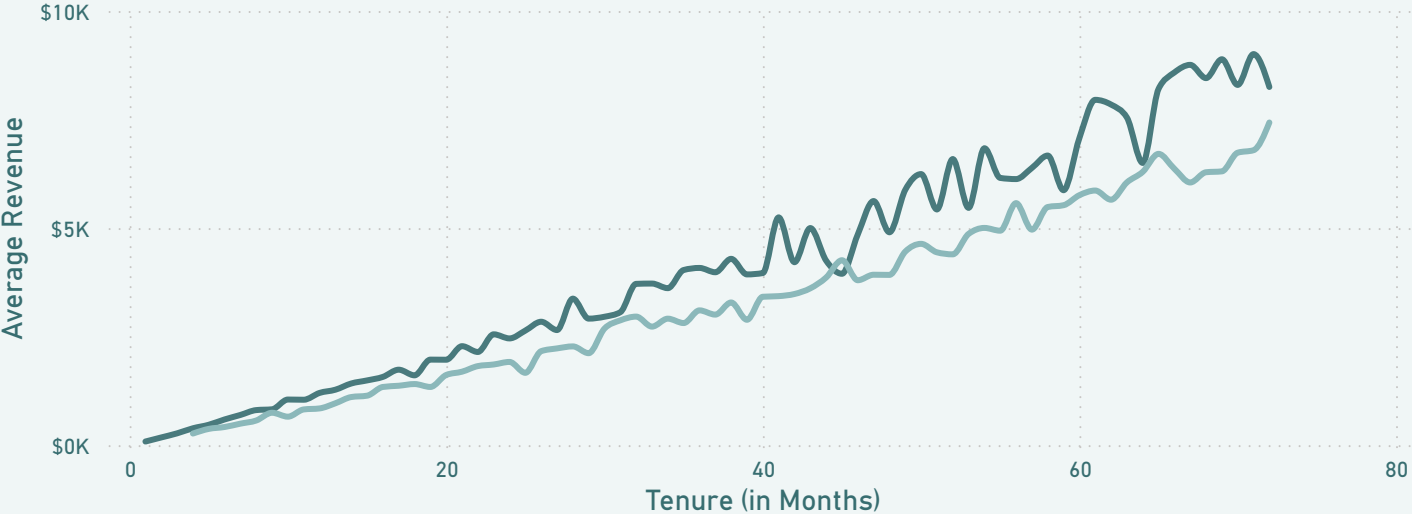


**Key Insight:**  
Although just 25% of customers contribute the majority of revenue, they account for **over 50% of total churn revenue**. Many of these high-spending churners were **loyal long-term customers** (60+ months) with **One- or Two-Year contracts** — a clear signal that churn isn't just a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

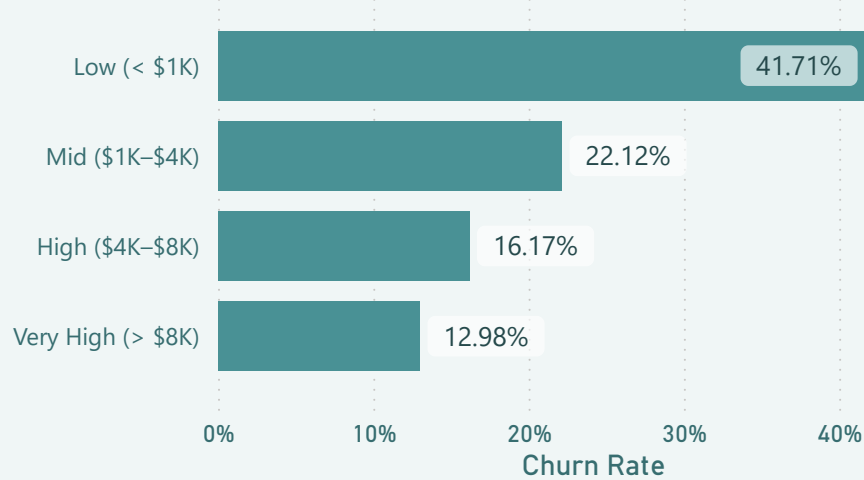
**Risk Pattern:**  
The **highest churn rates** are seen in customers generating **less than \$1K in total revenue**, but the **real financial impact** comes from the **top revenue tier (\$8K+)**, where even a small churn rate leads to significant losses.



**Average Revenue vs Tenure**  
Customer Status ● Churned ● Stayed



**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.*

Made with  by Pratiyush

Let's Connect

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