

Telecom Customer Churn Analysis and Retention Strategies

Unlocking Revenue and Reducing Churn through Data-Driven Insights

Agenda

Business Problem and Objective – Why churn is critical for the company.

Our Approach – How we analyzed churn (SQL + Python).

Key Findings – Churn drivers, retention drivers, and revenue insights.

Actionable Recommendations – Strategies to reduce churn and boost retention.

Conclusion – Linking insights to business impact.

Business Problem

The telecom company is facing **customer churn**, which directly leads to **revenue loss and unstable growth**. Management needs to understand:

- **Who** is churning (demographics, tenure, contract types).
- **Why** they are leaving (service usage, billing preferences, dissatisfaction).
- **Which services or customer groups** contribute most to revenue

Objective

Identify churn drivers, retention enablers, and customer segments at risk to design **data-driven retention strategies**, improve service adoption, and maximize lifetime revenue.

Our Approach

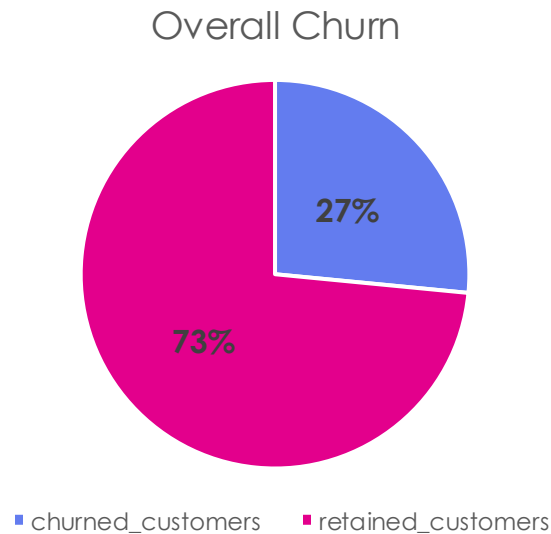
Descriptive Analysis (SQL) – What happened?

- Measured **overall churn rate, customer demographics, tenure distribution, and revenue contribution** across segments.
- Analyzed **service adoption, contract types, and payment methods** to highlight patterns.
- → Provided a **baseline view** of churn and its revenue impact.

Diagnostic Analysis (Python) – Why it happened?

- Explored churn drivers using **visuals and correlations** (tenure vs churn, contract type vs churn, service usage impact).
- Identified **high-risk cohorts** like month-to-month contracts, low-tenure customers, and electronic check users.
- → Revealed **root causes** and **retention anchors** for targeted action.

Snapshot of Churn +



We aim to reduce this baseline churn of 26.5% by at least 10% through targeted retention initiatives

Total customers
7043
Churned customers
1869
Churn rate percentage
26.54 %
Retained customers
5174

Demographic Insights

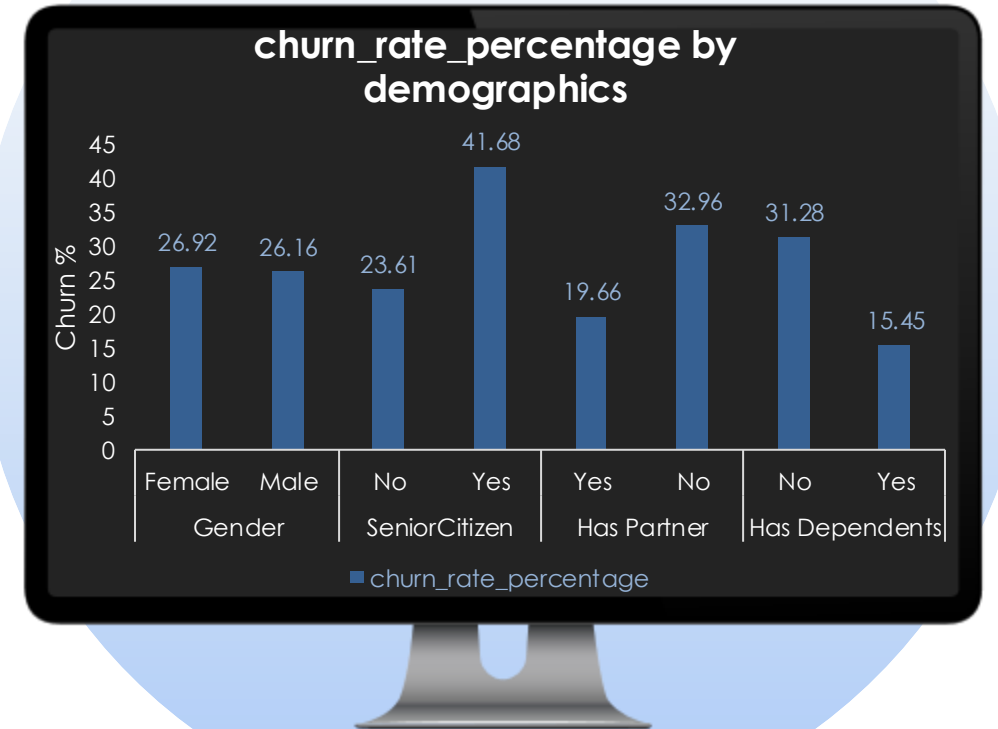
Highlights:

Senior citizens → 41.7% churn.

Does not have Partner → 32.96% churn.

Does not have dependents → 31.28% churn.

Senior citizens, customers without partners, or dependents are more likely to churn. Gender has minimal effect.



Tenure Insights

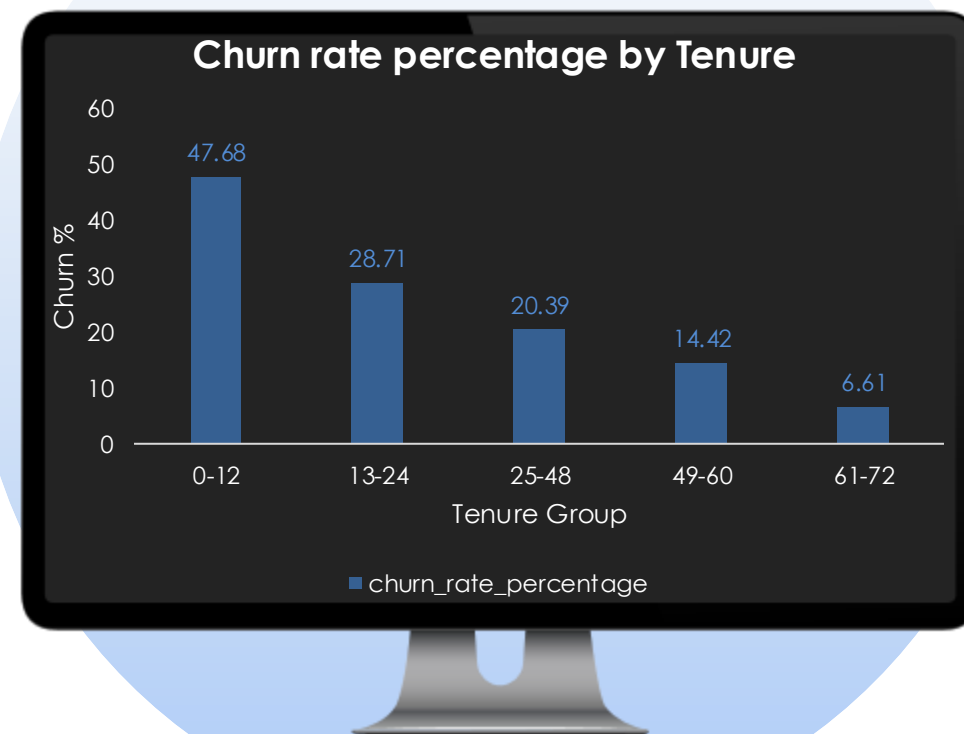
Highlights:

0-12 Tenure → 47.7% churn.

25-48 Tenure → 20.4% churn.

61-72 Tenure → 6.61% churn.

As customer tenure increases, the churn rate decreases significantly. New customers in their first 12 months are at the highest risk (47.7% churn), while long-term customers (49–72 months) are much more loyal, with churn dropping to 6.6%.



8 Churn by Contract

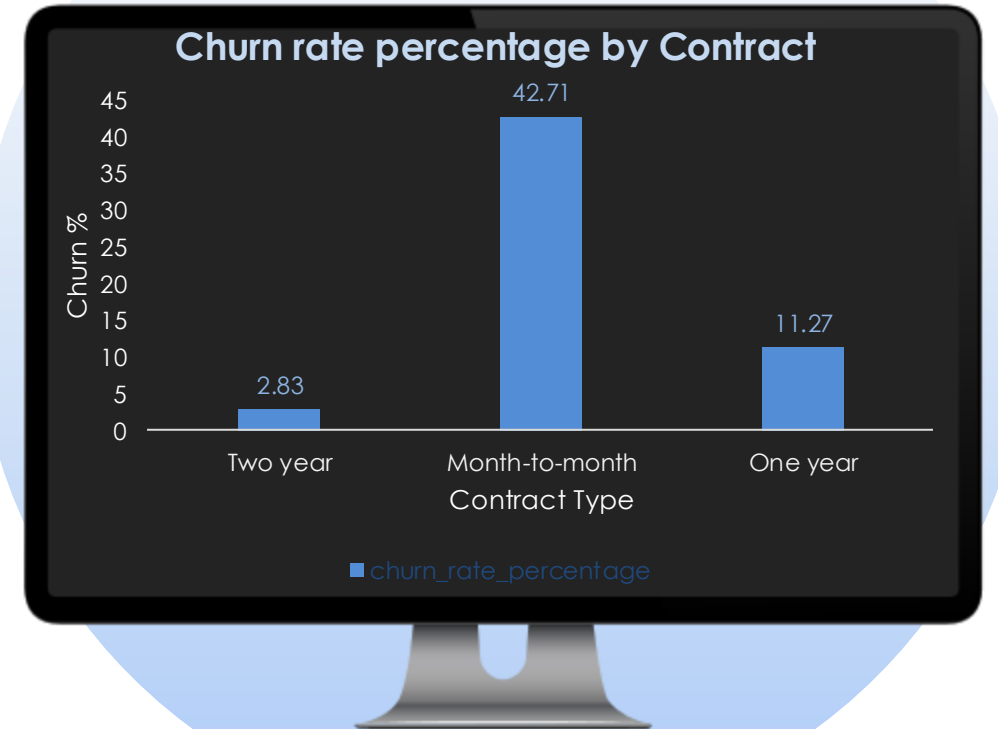
Highlights:

Month to Month contract → 42.71% churn.

One year Contract → 11.27% churn.

Two year Contract → 2.83% churn.

Higher commitment contracts strongly correlate with reduced churn



Revenue per Customer by Contract Type

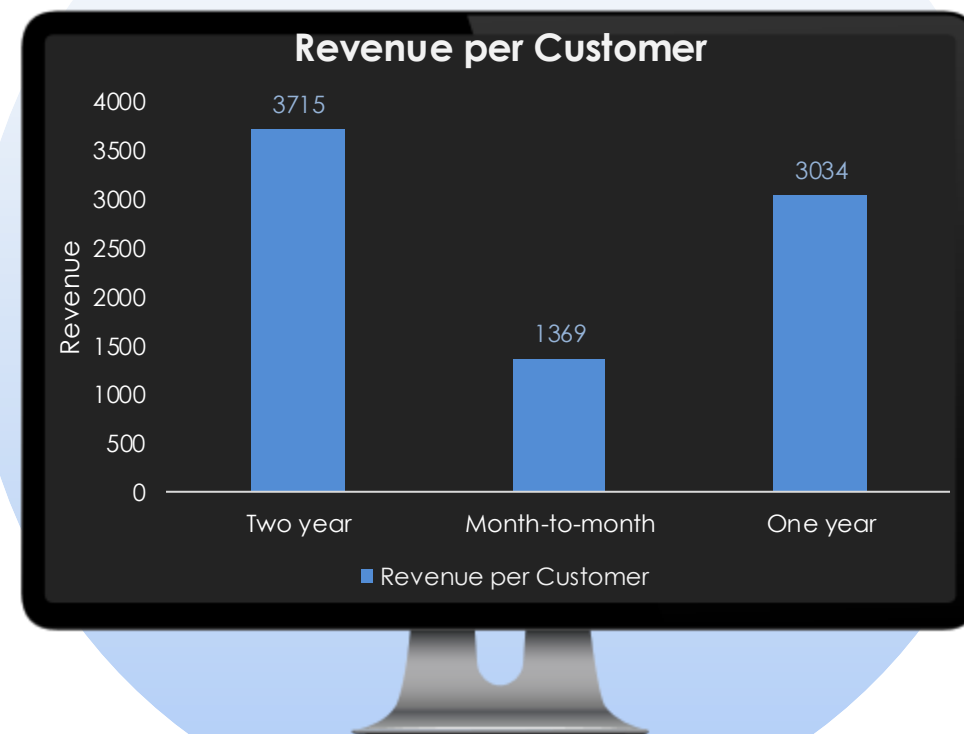
Highlights:

Two Year contract → **\$3715**

One year Contract → **\$3034** .

Month to Month Contract → \$1369.

- This pattern indicates that customers committing to longer contracts contribute more revenue over their lifetime
- Month-to-month contracts pose a substantial churn risk and yield lower revenue, highlighting the importance of incentives or strategies that encourage longer-term commitments.

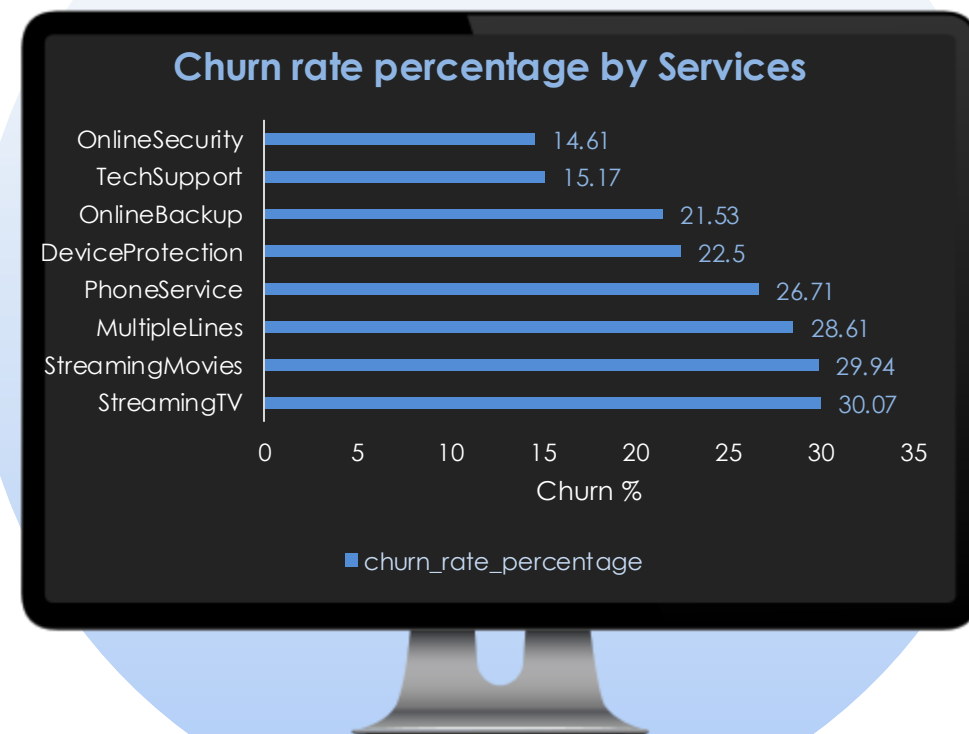


Service based churn Insights

$$\text{Churn Rate (\%)} = \frac{\text{Churned Customers with Service}}{\text{Total Customers with Service}} \times 100$$

Highlights from the churn rates + correlation data:

- Streaming (TV/Movies) service → ~30% churn.
- Phone & Multi-line Users Service → 26-29% churn.
- **Support & Security services act as retention anchors.**
- **Streaming & Phone services drive churn risk.**
- Cross-selling **security + support bundles** to high-churn segments can reduce attrition because They get **added value (support, security, reliability)** and more services = **higher switching cost** → reduces likelihood of churn
- Losing **multi-line customers is especially costly** (higher revenue impact).



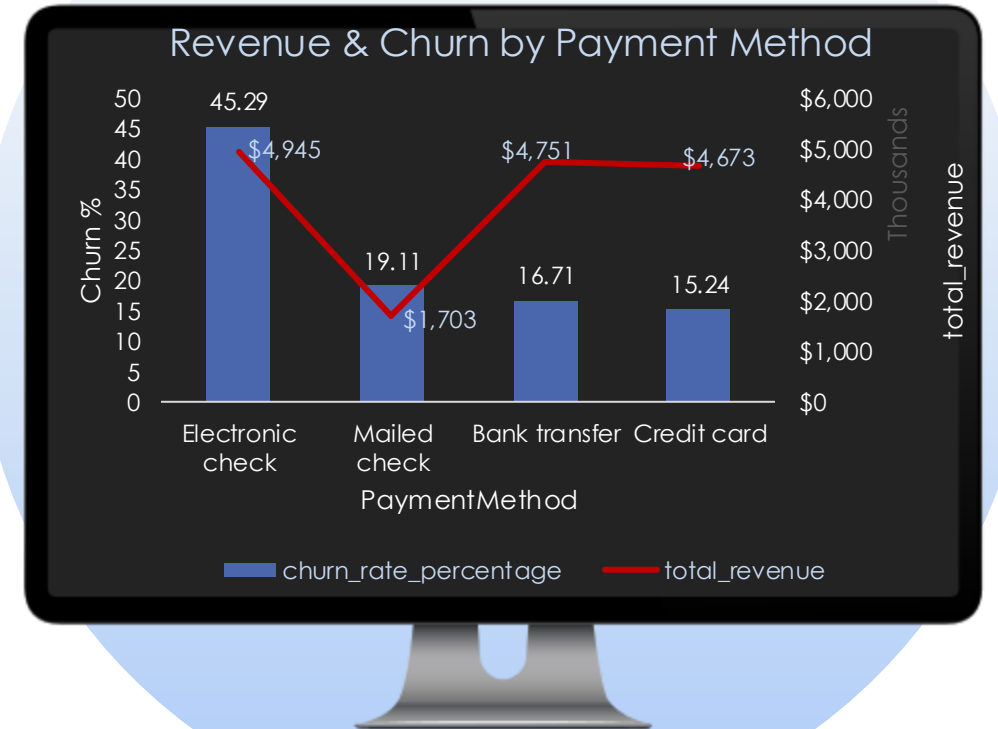
Payment Method & Billing

Highlights:

Electronic check → **45.3% churn** | **\$ 4,944,903 revenue**

Credit Card → 15.24% churn | **\$ 4672990.82 revenue**

- Electronic check users show the **highest churn rate (45.29%)** but also **generate the highest revenue (\$4.945K)**.
- Mailed check users have the **lowest churn rate (19.11%)** and the **lowest revenue (\$1.703K)**.
- Bank transfer and credit card methods have **lower churn rates (16.71% and 15.24%)** with **high revenue close to electronic check**.
- Electronic check customers are valuable but **challenging to retain due to high churn**.



12 Top 5 Churn Drivers

Priority	Churn Driver	Churn %	Key Insight
1	Lack of Security & Support Add-Ons (Online Security, Tech Support, Device Protection, Online Backup), No Streaming Services (TV/Movies)	77% – 93% 68–69% (No Streaming Services)	Customers without these core services are at extreme risk also, without entertainment services show high churn; add-ons act as powerful retention anchors.
2	No Multiple Lines	62.9%	Single-line customers are far less sticky compared to multi-line customers.
3	Tenure: First Month / First Year	Month 1 → 62%, 0–12 months → 47.7%	Early lifecycle is the most fragile stage; onboarding and engagement are critical.
4	Senior Citizens (No Partner/Dependents)	~50%+	Seniors living alone represent the highest-risk demographic micro-segment.
	Payment Method: Electronic Check	45.3% vs. 15–17% for Auto Payments	Manual billing is strongly linked with attrition, and this method is often chosen by customers who don't want to commit.

13 Top 5 Retention Drivers

Priority	Retention Driver	Churn % / Evidence	Key Insight
1	Contract Type: Two-Year	2.8% churn	Long-term contracts are the strongest loyalty anchor; customers are locked in and stable.
2	Contract Type: One-Year	11% churn	Even medium-term contracts significantly reduce churn vs. month-to-month.
3	Payment Method: Auto-Pay (Bank Transfer / Credit Card)	15–17% churn	Automatic payments reduce friction, improve convenience, and signal long-term commitment.
4	High Tenure (5+ Years)	<10% churn	Customers with long relationships rarely leave; loyalty builds over time.
5	Multiple Services + Bundling (e.g., multiple lines + add-ons)	<20% churn when bundled	Bundled customers are “locked in” to the ecosystem and harder to win away.

Actionable Recommendations – Reduce Churn

Bundle Value-Add Services

- Offer discounted bundles for Online Security, Tech Support, and Device Protection
- Increases adoption of retention-driving services, lowering churn from 77–93%.

Incentivize Long-Term Contracts

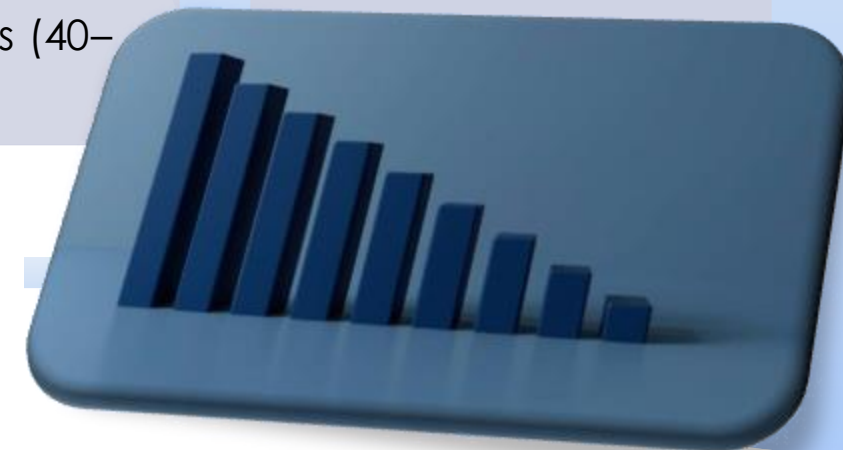
- Provide discounts or loyalty rewards for switching from month-to-month to 1–2 year contracts.
- Converts high-risk customers (43% churn) into stable long-term users (<3% churn).

Target At-Risk Segments

- Design personalized onboarding, easy guides, and simplified digital support for seniors, new customers, and those without dependents.
- Builds trust in early lifecycle, reducing churn among vulnerable demographics (40–50%).

Optimize Payment Methods

- Encourage migration from electronic checks to auto-pay (credit/bank) with cashback or discounts
- Reduces churn from 45% to ~15%, while ensuring reliable and timely payments.



Actionable Recommendations – Drive Retention & Growth

Cross-Sell Entertainment Bundles

- Promote streaming (TV/Movies) with internet and phone bundles.
- Enhances engagement and increases switching cost, lowering churn (~30%).

Proactive Retention Campaigns

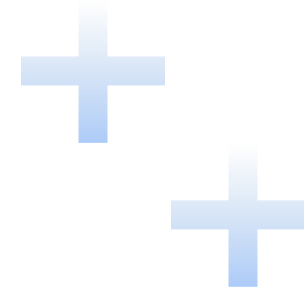
- Use churn prediction models to identify at-risk customers and trigger offers/upgrades.
- Retains high-value customers before exit, reducing revenue leakage.

Loyalty & Rewards Program

- Launch a points-based program rewarding tenure, upgrades, and on-time payments.
- Reduces churn from 45% to ~15%, while ensuring reliable and timely payments.



Summary



- The telecom company faces high customer churn causing revenue loss and growth instability.
- Key churn groups include senior citizens, new customers, month-to-month contract holders, and those without partners or dependents.
- Customers leave due to dissatisfaction with services, billing issues, and payment preferences, especially electronic check users.
- Streaming and phone services drive churn, while support and security services aid retention.
- Identifying churn drivers and at-risk segments supports data-driven retention strategies to improve revenue and service adoption.

Thank You

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