Telecom Churn Analysis – Insights & Recommendations

1. Overview

This analysis explores churn patterns in a telecom subscription dataset containing **440,000+ customer records**. With the dataset combining demographic, usage, billing, and support behavior, the goal is to identify the strongest churn drivers and recommend actions that directly improve customer retention.

---

2. Key Insights

Overall Churn

• The overall churn rate stands at **56.7%**, extremely high for any subscription-based telecom business.
This indicates systemic retention issues rather than isolated customer segments.

Subscription Type

• The **Basic** plan shows the highest churn (~58%).
• Higher-tier plans show significantly better retention.

Interpretation:
Entry-tier customers feel undersatisfied — poor perceived value, limited features, or unmet expectations.

Age vs Churn

• Churn probability **increases with age**, suggesting older customers are more likely to discontinue service.

Possible reasons:
• Lower digital experience comfort
• Price sensitivity
• Service complexity
• Lack of targeted support

Customer Support Calls

• Higher support call frequency strongly correlates with churn.
Customers who interact with support often are more likely to leave.

Interpretation:
High support usage = unresolved problems or poor service quality.
Support interactions are a major pain point.

Payment Delays

• Churn rises sharply with **increasing payment delays**.

Interpretation:
• Financial stress
• Billing dissatisfaction
• Poor value perception
Payment behavior is one of the strongest churn indicators.

High-Value Customers

• The top spenders (identified by TotalSpend) show extremely low churn rates.

Interpretation:
Premium users see consistent value. They are the most stable and profitable segment, deserving proactive retention perks.

Tenure vs Revenue

• Longer-tenure customers generate disproportionately higher lifetime revenue. The highest revenue cluster corresponds to customers around **33+ months of tenure**.

Insight:
Retention = revenue. Even small improvements in churn dramatically increase long-term profitability.

Contract Length vs Churn

• **Monthly contracts** churn the most (near 100%).
• **Quarterly and Annual** contract users churn much less (~46%).

Interpretation:
Short-term contracts attract low-commitment or uncertain users. Contract structure itself is a major churn predictor.

Gender vs Churn

• Female customers show higher churn (≈67%) compared to male customers (≈49%).

Interpretation:
There may be experience, pricing, or communication gaps impacting female users disproportionately.

---

3. Final Takeaways

1. Churn is driven heavily by **low-value plans**, **high support issues**, and **late payments**.
2. Monthly subscribers and Basic-plan users form the highest-risk segment.
3. Improving retention even by 5–10% could massively increase annual revenue due to the scale of the dataset.

---

4. Actionable Recommendations

1. Redesign the Basic Plan

• Add value-focused features
• Introduce small loyalty bonuses
• Reposition price/value perception

2. Build a "High Support Call" Alert System

• Flag customers with rising support interactions
• Provide rapid-resolution premium support
• Fix recurring root-cause issues

3. Payment Delay Intervention

• Early reminders + simpler billing
• Grace periods
• Auto-pay discounts
This could directly reduce churn from late payers.

4. Boost Annual/Quarterly Plan Conversions

• Promote upgrades with discounts
• Bundle perks
• Highlight cost savings
Lock users into long-term plans to stabilize revenue.