

Executive Summary: Telco Customer Churn Analysis

This analysis of the Telco customer dataset (7,043 records) identified key factors driving customer churn, providing actionable insights for retention strategies. The average customer **tenure** is approximately **32.4 months**, with an average **Monthly Charge** of **\$64.76**.

The findings highlight that customer churn is highly concentrated among specific service features and payment/contract structures, rather than gender or general demographics.

Key Drivers of Customer Churn

The analysis pinpoints three primary factors that correlate most strongly with a customer choosing to leave:

1. **Contract Type is the Highest Risk Factor:**
 - Customers on a **Month-to-month** contract are **most likely to churn**.
 - Conversely, customers with **One year** and **Two year** contracts show the lowest propensity to churn, indicating that longer-term commitment is a strong retention tool.
2. **Internet Service Type:**
 - Customers subscribed to **Fiber optic** internet service are significantly more likely to churn. This suggests potential issues with service quality, reliability, or value perception specific to the fiber offering.
 - Customers with **DSL** service or **No internet service** show a much lower churn rate.
3. **Payment Method:**
 - The **Electronic check** payment method is associated with the highest churn rate among all options. This may point to a potential friction point in the billing or payment process for this method.

Recommendation for Retention Strategy

To mitigate churn risk, the company should prioritize retaining customers in the high-risk segments:

- **Contract Migration:** Introduce targeted campaigns and incentives (e.g., promotional pricing, bundled services) to encourage **Month-to-month** customers to upgrade to **One year** or **Two year** contracts.
- **Fiber Optic Service Review:** Immediately investigate the root cause of dissatisfaction among **Fiber optic** customers. This could involve improving technical support, optimizing network performance, or re-evaluating pricing structure.
- **Payment Process Optimization:** Analyze the user experience for **Electronic check** payments to address any usability issues, and promote automated payment methods (Bank transfer/Credit card auto-pay) to improve customer stability.

The simplest and most impactful analysis from Telco Customer Churn (TCA) notebook can be distilled into the following three high-leverage insights. These points identify **who is leaving** and **why**, making them the best starting points for action.

1. High Churn Risk: Contract Type 📅

The most critical factor driving churn is the **Contract Type**.

- **The Best Insight:** Customers on **Month-to-month contracts** are the most likely to churn. This group lacks commitment and is constantly re-evaluating their service, making them the most volatile customer segment.
 - **Actionable Takeaway:** Focus marketing and sales efforts on converting "Month-to-month" customers to **One- or Two-year contracts** using incentives, as these longer contracts significantly reduce the probability of churn.
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2. Service Issue Focus: Fiber Optic Internet 🌐

The type of internet service strongly correlates with churn.

- **The Best Insight:** Customers subscribed to **Fiber optic** internet service have a notably higher churn rate compared to those with DSL. This suggests a problem specific to the Fiber service—likely related to **reliability, speed consistency, or perceived value for the price**.
 - **Actionable Takeaway:** Launch a deep-dive investigation into the **Fiber optic** service. Check customer support tickets, network performance logs, and pricing structure to address the underlying issue causing dissatisfaction in this high-tech segment.
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3. Process Friction: Electronic Check Payments 💳

The payment method used by the customer is also a key predictor.

- **The Best Insight:** Customers who pay by **Electronic check** are churning at the highest rate. This often indicates a **point of friction** in the billing or payment process (e.g., failed payments, confusing statements, difficulty managing the account online).
- **Actionable Takeaway:** Review the entire **Electronic check** payment and billing experience. Also, encourage migration to more stable, automated methods like "Credit Card Auto-pay" or "Bank Transfer Auto-pay," which are associated with lower churn.