**Churn Analysis Report**

**1. Overview**

The goal of this analysis is to understand the drivers of customer churn within a telecommunications company. Using a dataset of ~7,000 customers, I explored patterns in customer demographics, service usage, billing behavior, and contract types to uncover key insights that can inform retention strategies.

**2. Key Findings**

**Overall Churn Distribution**

* About **26.5% of customers churned** while 73.5% stayed.
* This indicates a **significant retention challenge** that impacts recurring revenue.

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**Churn by Tenure**

* **New customers (0–3 months)** show the **highest churn rate**.
* Customers with **longer tenure (>2 years)** are much less likely to leave.
* Interpretation: Early-stage experience (onboarding, initial service quality) is critical to preventing churn.

A graph with blue and orange bars

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**Churn by Monthly Charges**

* Customers with **higher monthly charges** tend to churn more often.
* Churned customers had a **median monthly bill close to $80**, compared to ~$65 for retained customers.
* Interpretation: Pricing sensitivity is a major churn driver; customers paying more expect higher service quality.

A graph of a chart

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**Churn by Contract Type**

* **Month-to-month customers** have the highest churn rate.
* One-year and two-year contract customers show **much lower churn**, suggesting that long-term plans improve retention.
* Interpretation: Commitment plans reduce churn, possibly because they come with incentives (discounts, stability).

A graph of different colored bars

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**Churn by Internet Service Type**

* **Fiber optic customers** churn significantly more than DSL customers.
* “No internet service” customers churn the least, likely because they subscribe to other bundled services.
* Interpretation: Fiber optic services may face quality or cost-related dissatisfaction leading to higher cancellations.

A graph of a number of different colored bars

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**Correlation Analysis**

* **Tenure** has a **negative correlation (-0.35)** with churn → longer-tenured customers are less likely to churn.
* **Monthly Charges** has a **positive correlation (0.19)** with churn → higher bills slightly increase churn likelihood.
* **Total Charges** shows weak correlation once tenure is accounted for.
* Interpretation: Retention strategies should focus on **contract structure, onboarding, and pricing** rather than raw revenue metrics.

A diagram of a heat map

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**3. Business Recommendations**

Based on these insights, I recommend:

1. **Strengthen Onboarding Programs**
   * Provide personalized onboarding support and welcome offers for customers in their **first 90 days**.
   * Proactively address service or billing concerns early.
2. **Encourage Long-Term Contracts**
   * Incentivize month-to-month customers to switch to annual contracts via discounts or bundled perks.
   * Highlight cost savings of long-term plans to reduce churn risk.
3. **Review Fiber Optic Service Experience**
   * Investigate customer complaints related to fiber optic plans (pricing, installation, speed).
   * Offer loyalty perks or improved support to fiber customers at risk of churning.
4. **Pricing Strategy Adjustments**
   * Monitor high-bill customers closely with retention campaigns.
   * Provide tiered service bundles to align price with value perception.