**📘 Telecom Customer Churn Analysis**

**A Data-Driven Portfolio Project**

**📊 Executive Summary**

In today’s telecom industry, customer loyalty is a moving target. While many users sign up for services, not all of them stay. Some leave after just a month or two, while others remain loyal for years. This pattern—where customers stop using a service—is what businesses aim to reduce. Identifying which types of users are more likely to leave, and why, helps companies take proactive steps to retain them.

This report presents a comprehensive analysis of such customer behavior, focusing on uncovering the reasons behind service discontinuation. Through data-driven exploration and visualization, we aim to derive actionable insights and retention strategies.

**1. 🔍 Overall Churn Rate**

* **26.54%** of customers have discontinued their service.
* This translates to more than **1 in 4 customers** opting out of the provider’s offerings.
* A clear sign that current retention strategies may need strengthening.

**2. 👥 Demographics & Churn Behaviour**

* **Senior Citizens** are disproportionately represented among customers who left.
  + Possible contributing factors include affordability or lack of tech support.
* Customers **without partners or dependents** tend to exit services more frequently.
  + This may indicate lower emotional or household reliance on the service.

**3. ⏳ Tenure & Loyalty**

* Customers with a **tenure of less than 3 months** have the **highest churn rates**.
  + Suggests issues during onboarding or early-stage dissatisfaction.
* Customers with **2+ years of tenure** exhibit strong loyalty and low churn.
  + Time invested correlates with satisfaction and trust in the service.

**4. 📄 Contract Type & Retention**

* **Month-to-month contracts** are the riskiest, with churn rates up to **3x higher** than long-term contracts.
* **1-year and 2-year contract holders** are significantly more stable.
  + Longer commitments result in increased customer retention.

**5. 💼 Add-On Services Influence**

* Customers who don’t subscribe to additional features like:
  + **Online Security**
  + **Tech Support**
  + **Device Protection**  
    are much more likely to leave.
* These services add value, improve experience, and reduce the chances of a customer opting out.

**6. 💳 Payment Method & Churn**

* **Electronic check users** account for the **highest proportion of churners**.
  + Possibly due to lack of automation or ease-of-use in billing.
* Customers using **automatic payment methods** such as credit cards or bank drafts show **lower churn**, indicating that billing convenience helps retain users.

**✅ Key Recommendations**

1. **Improve onboarding experiences** to retain users in the first 90 days.
2. **Incentivize long-term contracts** to stabilize customer relationships.
3. **Develop senior-friendly features** and dedicated support services.
4. **Bundle and promote value-added services** to increase customer engagement.
5. **Encourage automatic payment adoption** through rewards or opt-in perks.

**📌 Project Value**

This project demonstrates core skills in:

* Data wrangling and cleaning (e.g., handling nulls and converting data types).
* Exploratory data analysis (EDA) and visualization.