Telco Customer Churn Analysis –Stakeholder Report

1. What Happened at Telco

This project focused on understanding why customers leave the telecom company and building a system that can flag customers who are likely to leave in the future.

I analyzed a customer dataset that included details such as monthly Charges, contract types, internet services, support services, and overall customer relationships.
The project involved four main steps:

a. Understanding the Data

I reviewed customer information to ensure it was clean and accurate. This included checking the columns and ensuring no information was missing or duplicated.

b. Exploring Customer Behavior

I examined how different factors relate to customer churn: such as charges, length of stay with the company, contract type, and additional services.
Key patterns emerged, such as shorter-tenure customers and month-to-month subscribers being more likely to leave.

c. Creating Helpful Customer Categories

To better understand pricing behavior, I grouped customers into monthly charge ranges to observe how churn varies across different spending levels.

d. Building Prediction Tools

I created three versions of a churn prediction tool using different approaches. Each tool aimed to predict which customers were at risk of leaving so the company can act ahead of time.

2. Key Stakeholders that need this Analysis

Executive Management

Needs to understand the financial impact of churn and evaluate strategic actions that will improve retention.

Marketing Team

Uses churn insights to create targeted retention campaigns and develop offers for at-risk customers.

Customer Service

Benefits from early alerts about unhappy customers so they can intervene quickly.

Product/Service Development

Uses insights to improve products and services that customers are dissatisfied with.

Sales Team

Finds opportunities to offer better plans, bundles, or upgrades to customers likely to leave.

Finance Team

Relies on churn forecasts to estimate future revenue and allocate budgets for retention programs.

3. Goal of the Project

The analysis was designed to address three main questions:

1. **Why are customers leaving?**
2. **Can we identify customers likely to leave before they actually do?**
3. **Which prediction approach works best for our business needs?**

The overall goal is to help the company *reduce customer loss* by:

- Predicting churn early
- Understanding the reasons behind churn
- Helping teams take targeted actions to keep customers from leaving

4. What Stakeholders Need to Know (Performance Indicators)

To choose the best prediction tool, I assessed each model using the following key indicators:

- **Accuracy** – How often the tool predicts correctly
- **Precision** – How reliable the tool is when it flags churn
- **Recall** – How well the tool identifies *all* customers who may churn
- **F1-Score** – A combined measure of accuracy and reliability

These indicators were measured for both churners and non-churners.

5. What Success Looks Like

A successful outcome includes:

a. Strong Prediction Performance

The tools should predict customer churn with at least **75% accuracy** while being especially good at capturing customers who are likely to leave.

b. Actionable Insights

The analysis should provide clear explanations of *why* customers churn and highlight specific customer groups that need attention.

c. A Working Prediction Tool

A final model should be ready for real-world use—easy to integrate into dashboards or applications for daily churn monitoring.

Key Drivers of Customer Churn

The analysis across all models consistently identified the following major churn predictors:

1. **Contract Type:** Month-to-month customers churn the most.
2. **Tenure:** Customers with short tenures are more likely to leave.
3. **Monthly Charges:** Higher monthly charges (₦61–100+ range) correlate with higher churn.
4. **Online Security:** Customers without online security services are more likely to churn.
5. **Tech Support:** Lack of tech support is strongly associated with churn.
6. **Internet Service:** Fiber optic customers churn more often than DSL customers.
7. **Paperless Billing:** Users with paperless billing exhibit higher churn.
8. **Senior Citizen:** Senior citizens show higher churn tendencies.
9. **Device Protection:** Lack of device protection increases churn likelihood.

Actionable Strategies for Reducing Churn

1. Contract-Based Retention

- Offer discounts or bonuses for customers on month-to-month plans.
- Introduce loyalty programs to encourage longer-term commitments.

2. Engage Early in the Customer Journey

- Provide proactive support and check-ins during the first 6–12 months.

3. Improve Service Add-Ons

- Bundle online security and tech support with internet plans.
- Communicate the value of these services more clearly.

4. Address Fiber Optic User Pain Points

- Investigate complaints and strengthen technical support.

5. Revisit Paperless Billing Experience

- Personalize communication and incentives for this segment.

6. Create Senior-Friendly Packages

- Provide dedicated support lines, simplified plans, or discounts.

7. Support High-Spending Customers

- Offer tailored pricing solutions or loyalty rewards.

8. Promote Device Protection

- Offer trial periods or bundle device protection with existing services.