📊 Customer Churn Analysis – Insight Summary

🔹 Key Findings

1. **Overall Churn Rate**: ~27% of customers are churning. This is significant and indicates retention challenges.
2. **High-Risk Segments**:
    - **Month-to-Month contracts** → highest churn (>40%), compared to <15% for yearly contracts.
    - **Electronic check users** churn at much higher rates vs. auto-pay customers.
    - **Low Tenure customers (0–12 months)** churn far more than long-tenure customers.
    - **Fiber optic customers with higher charges** are disproportionately at risk.
3. **Revenue at Risk**: A large portion of recurring monthly revenue is tied to high churn-risk customers. Without intervention, this directly impacts annual revenue.

🔹 Predictive Model Insights

- **XGBoost model** achieved the best recall, identifying ~73% of churners.
- **Top Predictive Drivers**:
    1. Contract Type
    2. Payment Method
    3. Tenure
    4. Monthly Charges
    5. Internet Service Type

These align strongly with observed churn patterns, increasing trust in the model.

🔹 Business Recommendations

1. **Contract Strategy**:
    - Incentivize customers to switch from Month-to-Month → Yearly contracts (discounts, loyalty rewards).
2. **Payment Method**:
    - Promote **Auto-pay (credit card / bank transfer)** options to reduce churn.
3. **Early Tenure Engagement**:
    - Focus retention campaigns in the first 6–12 months with personalized offers, onboarding, and support.
4. **High-Charge Fiber Customers**:

- Consider bundled offers, value-added services, or customer success outreach to reduce dissatisfaction.

5. **Revenue Protection**:

    - Even modest **5–10% retention uplift** (modeled in Power BI) translates to significant annual revenue saved.