Customer Churn & Retention Analysis Report

1. Executive Summary

Objective
The objective of this analysis is to understand why customers are churning and to identify actionable strategies to improve customer retention.

Key Findings

- The overall customer churn rate is approximately **26%**, indicating a significant retention challenge.
- Churn is **not evenly distributed** across the customer base.
- The highest churn is observed among:
  - **New customers (tenure < 12 months)**
  - **Customers with high monthly charges**
  - **Customers on month-to-month contracts**
- A churn risk scoring model shows:
  - **High-risk customers churn at ~60%**
  - **Medium-risk customers churn at ~26%**
  - **Low-risk customers churn at ~4%**

Business Impact
A relatively small segment of high-risk customers accounts for a disproportionate share of churn and potential revenue loss. Current retention efforts are likely inefficient due to lack of targeting.

Recommendations

- Focus retention initiatives on high-risk customers during their first 90 days.
- Incentivize contract upgrades from month-to-month to annual plans.

- Strengthen early onboarding and value communication.

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2. Business Problem & Objective

Customer churn directly impacts revenue, growth, and customer lifetime value.
Management lacks clarity on:

- Which customers are most likely to churn
- What behaviors or attributes drive churn
- Where retention efforts should be focused

This analysis aims to:

- Identify key churn drivers
- Segment customers by churn risk
- Provide data-driven retention recommendations

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3. Data Overview & Methodology

Dataset

- Source: IBM Telco Customer Churn dataset
- Records: 7,043 customers
- Features: Demographics, contract details, pricing, and churn status

Methodology

1. Data cleaning and validation
2. Exploratory analysis to identify churn drivers
3. Development of an interpretable churn risk scoring model

4. Validation of churn risk segments
5. Translation of findings into business recommendations

The analysis was conducted using **Python (pandas)** for data preparation and **PostgreSQL** for analytics and reporting.

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4. Key Findings

4.1 Overall Churn

- Approximately **26% of customers have churned**
- This level of churn suggests material revenue risk and highlights the need for targeted retention strategies

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4.2 Primary Churn Drivers

Tenure

- New customers churn at significantly higher rates than long-tenured customers
- The first year is the most critical retention period

Monthly Charges

- Customers with higher monthly charges are more likely to churn
- Indicates price sensitivity or insufficient perceived value

Contract Type

- Month-to-month contracts have the highest churn
- Long-term contracts significantly reduce churn risk

4.3 Interaction Effects (Critical Insight)

Churn risk increases sharply when multiple risk factors combine.

> **New customers paying high monthly charges on month-to-month contracts exhibit the highest churn rates.**

This suggests churn is driven by a combination of **pricing, commitment level, and customer maturity**, not by any single factor alone.

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5. Churn Risk Scoring Model

An interpretable churn risk scoring model (0–100) was developed using three key factors:

Factor	Rationale
Monthly Charges	Captures price sensitivity
Tenure	Reflects customer commitment
Contract Type	Indicates switching flexibility

Risk Segments

Risk Segment	Churn Rate
High Risk	~60%
Medium Risk	~26%
Low Risk	~4%

The model effectively separates customers by churn likelihood and provides a practical tool for targeted retention efforts.

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6. Business Recommendations

Recommendation 1: Early-Tenure Retention Program

Evidence

- Highest churn occurs within the first 12 months

- Risk is amplified for high-paying customers

Action

- Implement targeted retention offers during the first 90 days
- Temporary discounts or enhanced value messaging

Expected Impact

- Reduced early churn
- Increased customer lifetime value

Recommendation 2: Contract Conversion Incentives

Evidence

- Month-to-month contracts have significantly higher churn

Action

- Offer incentives to move customers to annual contracts
- Examples: discounted annual pricing or bonus features

Expected Impact

- Increased retention
- More predictable recurring revenue

Recommendation 3: Strengthened Onboarding & Value Communication

Evidence

- High-paying new customers churn early, indicating unmet expectations

Action

- Proactive onboarding during the first 30–60 days
- Clear communication of included features and support options

Expected Impact

- Improved perceived value
- Lower churn driven by confusion or underutilization

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7. Limitations & Next Steps

Limitations

- Churn definition is binary and does not capture partial disengagement
- No direct usage or customer satisfaction metrics available

Next Steps

- Incorporate usage behavior and support interaction data
- Estimate revenue at risk from high-risk customers
- Compare rule-based churn scoring with predictive models

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8. Conclusion

This analysis demonstrates that customer churn is **predictable, concentrated, and actionable**. By focusing on early-tenure, high-risk customers and aligning retention strategies with data-driven insights, the company can meaningfully reduce churn and protect revenue.