# Executive Summary & Business Recommendations

## Customer Churn Analysis

### Overview

This analysis investigates customer churn behavior to identify the primary factors driving customer attrition and to recommend data-driven strategies for improving customer retention. The study integrates data cleaning, transformation, and visualization techniques to uncover meaningful patterns across customer demographics, tenure, contract types, service usage, and payment methods.

The analysis reveals that **26.54% of customers have churned**, meaning **more than one out of every four customers leave the company**. This level of churn presents a substantial risk to revenue stability and customer lifetime value, emphasizing the need for targeted retention strategies.

Before analysis, data quality issues were addressed to ensure reliability. Missing Total Charges values (associated with zero tenure) were corrected, and categorical variables such as Senior Citizen were transformed into interpretable labels. These steps ensured that insights drawn from the charts accurately reflect customer behavior.

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## Key Analytical Insights

### Customer Tenure and Churn

Customer tenure shows a strong inverse relationship with churn:

- Customers with **very short tenure (particularly within the first 1–2 months)** account for the **highest proportion of churn**.

- Churn probability decreases consistently as tenure increases.

- Long-tenured customers form the **largest share of retained customers**, indicating higher loyalty once customers move beyond the early lifecycle stage.

**Insight:**
Early-stage churn is the most critical loss point in the customer journey.

## Contract Type Impact

Contract structure is one of the strongest churn drivers:

- **Month-to-month contracts contribute the highest percentage of churned customers**.

- Customers on **1-year and 2-year contracts show significantly lower churn rates**.

- Long-term contracts function as a natural retention mechanism.

**Insight:**
Encouraging longer contract commitments can significantly reduce churn.

## Senior Citizen Churn Behavior

Demographic analysis highlights age-based churn differences:

- **Senior citizens exhibit a higher churn rate** compared to non-senior customers.

- Although seniors represent a smaller portion of the customer base, their churn contribution is disproportionately high.

**Insight:**
This segment may require specialized engagement, pricing, or support strategies.

## Service Usage and Retention

Service adoption strongly correlates with retention:

- Customers who **subscribe to multiple services are more likely to remain**.

- Churn is more common among customers with **limited or no value-added services**.

**Insight:**
Higher service adoption increases perceived value and customer stickiness.

## Payment Method and Churn

Payment behavior reveals operational churn drivers:

- Customers using **electronic check payment methods show higher churn percentages** than those using automated or card-based payments.

- Other payment methods are more prevalent among retained customers.

**Insight:**
 Payment friction can indirectly contribute to customer dissatisfaction and churn.

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# Business Recommendations with KPIs

## 1. Reduce Early-Stage Churn Through Improved Onboarding

**Recommendation:**
 Enhance onboarding and engagement during the first 30–60 days through guided setup, proactive communication, and early support interventions.

**KPIs:**

- Churn rate within first 60 days (%)

- New customer retention rate (%)

- Customer activation rate (%)

- Time-to-first-value (days)

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## 2. Increase Long-Term Contract Adoption

**Recommendation:**
 Encourage migration from month-to-month plans to long-term contracts using incentives, clear value messaging, and upgrade campaigns.

**KPIs:**

- Percentage of customers on long-term contracts (%)

- Churn rate by contract type (%)

- Contract upgrade conversion rate (%)

- Average customer tenure (months)

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## 3. Expand Value-Added Service Adoption

**Recommendation:**
Promote bundled offerings and personalized service recommendations to increase service attachment and customer engagement.

**KPIs:**

- Average number of services per customer

- Churn rate by service count (%)

- Service attachment rate (%)

- Average Revenue Per User (ARPU)

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## 4. Implement Targeted Retention Programs for Senior Citizens

**Recommendation:**
Design senior-focused plans, simplified communication, and dedicated support to address higher churn in this segment.

**KPIs:**

- Senior citizen churn rate (%)

- Retention rate by age group (%)

- Customer Satisfaction Score (CSAT) – senior segment

- First-contact resolution rate (%)

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## 5. Optimize Payment Experience to Reduce Transaction-Driven Churn

**Recommendation:**
 Encourage automated payment methods and reduce electronic check dependency through incentives and frictionless billing processes.

**KPIs:**

- Churn rate by payment method (%)

- Percentage of customers on automated payments (%)

- Payment failure rate (%)

- Billing-related support ticket volume (%)

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## 6. Establish a Churn Monitoring and Early-Warning Framework

**Recommendation:**
 Develop churn dashboards and early-risk indicators using tenure, contract type, service usage, and payment behavior to enable proactive retention actions.

**KPIs:**

- Overall churn rate (%)

- High-risk customer identification accuracy (%)

- Retention campaign success rate (%)

- Customer Lifetime Value (CLV)

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# Conclusion

This analysis demonstrates that customer churn is **systematic and predictable**, not random. The churn rate of **26.54%** is driven primarily by early tenure loss, flexible contract structures, limited service adoption, senior-specific challenges, and payment friction.

By implementing the recommended strategies and tracking the defined KPIs, the business can transition from descriptive churn analysis to **proactive, data-driven retention management**, leading to reduced churn, improved customer lifetime value, and more stable long-term revenue.