Executive Summary: Customer Churn Analysis

The analysis conducted on a customer churn dataset provided key insights into customer behavior, service preferences, and churn trends. Below is a detailed breakdown of the findings:

1. **Customer Churn Rate**:

   - The dataset revealed a churn rate of **26.45%**, indicating that over a quarter of customers left the service. This metric underscores the need for targeted customer retention strategies.

2. **Key Factors Influencing Churn**:

   - **Contract Types**: Customers on **month-to-month contracts** exhibited significantly higher churn rates compared to those with annual or biannual contracts.

   - **Payment Methods**: Customers using **electronic checks** as a payment method were more likely to churn, while those opting for **automatic bank transfers** or credit cards displayed greater loyalty.

3. **Demographic Insights**:

   - **Senior Citizens**: Though they make up a smaller segment of the customer base, senior citizens have a disproportionately high churn rate compared to younger customers.

   - **Dependents**: Customers without dependents or partners were more likely to churn, suggesting that family-oriented services or incentives could help reduce churn.

4. **Service Usage Patterns**:

   - **Internet Services**: Customers using **fiber-optic internet** were more likely to churn compared to DSL users, possibly due to price sensitivity or service issues.

   - **Add-On Services**: A lack of value-added services like **online security, tech support, and device protection** was a significant churn driver.

5. **Financial Impact**:

   - Customers with higher **monthly charges** showed a higher propensity to churn. This trend was particularly pronounced among those on month-to-month contracts.

Visualizations:

Several visualizations supported these insights:

- A **pie chart** illustrated the overall churn rate of 26.45%.

- **Bar charts** displayed churn distribution across contract types, payment methods, and service preferences.

- **Heatmaps** were utilized to uncover correlations between churn and key variables.

Conclusion:

The analysis highlights critical areas for improving customer retention, such as optimizing contract terms, enhancing service bundles, and offering incentives for loyal customers. These insights showcase my ability to analyze data comprehensively, draw actionable conclusions, and present them effectively through visualizations.

I am confident in my ability to contribute to data-driven decision-making and am eager to bring these skills to a professional setting.