Subscription Project: Analysis

**Subscription Project: Visualization Analysis**

1. **Churn Distribution**

**A diagram of a number of churn distribution

Description automatically generated**

**Visualization: Bar Chart**

* **What it Shows**: The chart depicts the count of customers who churned (left the service) versus those who did not churn.
* **Analysis**:
  + The number of customers who did not churn significantly exceeds those who did.
  + This indicates that while churn is an issue, the majority of the customer base remains loyal.
  + **Key Insight**: Strategies to target and reduce churn in the smaller subset can have a meaningful impact on overall retention rates.

1. **Monthly Charges by Churn Status**

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Description automatically generated with medium confidence**

**Visualization: KDE Plot**

* **What it Shows**: A density plot comparing the distribution of monthly charges between churned and non-churned customers.
* **Analysis**:
  + Customers with higher monthly charges are more likely to churn (orange curve peaks at higher values).
  + Non-churned customers are concentrated around lower monthly charges.
  + **Key Insight**: High monthly charges may be a pain point for some customers. Offering discounts or value-added services to high-charge customers can improve retention.

1. **Tenure Months by Churn Status**

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**Visualization: Histogram**

* **What it Shows**: A histogram displaying customer tenure (in months) segmented by churn status.
* **Analysis**:
  + Churn is high among customers with very short tenures (new customers).
  + Customers with longer tenures (e.g., 70 months) are less likely to churn.
  + **Key Insight**: Focus retention efforts on new customers by improving onboarding experiences and offering incentives during the early stages of their tenure.

1. **Correlation Matrix**

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**Visualization: Heatmap**

* **What it Shows**: A heatmap illustrating the correlation between different variables in the dataset.
* **Analysis**:
  + **Strong Correlations**:
    - Monthly charges and total charges are strongly correlated (as expected).
    - Churn is moderately correlated with monthly charges but not as strongly with tenure.
  + **Key Insight**: Variables like monthly charges and tenure can act as predictors for churn. Using these insights to build predictive models can enhance decision-making.

**Conclusion**

These visualizations provide a clear understanding of customer behavior in relation to churn. By focusing on:

1. Reducing pain points for high-charge customers,
2. Improving the experience of new customers,
3. Leveraging correlations for predictive modeling, organizations can significantly reduce churn and enhance customer satisfaction.

**How This Analysis Benefits the Company**

**1. Improved Customer Retention Strategies**

The visualizations highlight factors influencing customer churn, such as high monthly charges and short tenures. By addressing these pain points, the company can:

* Design tailored discount offers for high-charge customers.
* Enhance the onboarding experience for new customers to improve early retention rates.

**2. Data-Driven Decision Making**

The insights from the correlation matrix enable the company to:

* Identify key predictors of churn, such as monthly charges and tenure, for predictive modeling.
* Prioritize actionable areas that have the most significant impact on customer satisfaction and retention.

**3. Revenue Optimization**

Understanding the relationship between charges and churn allows the company to:

* Reevaluate pricing strategies for different customer segments.
* Introduce tiered service levels that cater to both low-paying and high-paying customers.

**4. Enhanced Forecasting and Planning**

By leveraging these analyses, the company can:

* Forecast churn trends and proactively address potential revenue loss.
* Allocate resources more effectively towards at-risk customers.

**5. Improved Communication with Stakeholders**

The clear and visually appealing graphs provide a compelling way to communicate data-driven findings to stakeholders, making it easier to justify strategic decisions.