Report:

Objective: The aim of this project was to get insights from a dataset and produce a few simple recommendations on improving customer retention

1.Demograhpic stats:

Out of 7.03K, 2K customers churned, which indicated churn rate is quite significant. Need to analyse what caused this higher churn rate based on given parameters.

There is little difference in churn ratio between genders but there is a notable difference between the senior/non-senior age groups. In order to determine if these differences are of statistical significance, a Z-test is performed.

- Gender:
  Z=-0.72
  With this z-score, the difference between the churn rates for male and female customers is indeed not statistically significant (assuming typical significance levels (0.05)), meaning there's no strong evidence to suggest a real difference in churn rates based on gender alone.

Let's see if this is also the case for the age-based churn ratios.

- Age:
  The numbers can then be plugged into the final z-formula
  Z=12.66

In this case the z-score is vastly higher, indicating that the difference in churn rates between senior and non-senior groups is statistically significant.

Conclusion: Since the churn rate by gender isn't statistically significant, maybe gender-based targeting for retention isn't necessary, whereas age-based targeting (like for senior customers) could be a key area for intervention.

2.Partner & Dependents:

- **Partner**: Customers without partners have a slightly higher churn rate (32.96%) compared to those with partners (19.66%). This could indicate that customers who live alone might not feel as attached to the service or may be more budget-conscious.
- **Dependents**: Customers with dependents have a lower churn rate (15.45%) compared to those without (31.26%). This suggests families may be more likely to retain their services.

3.Contract Type & Churn:

- Customers with **month-to-month contracts** show the highest churn (75.18%). This is much higher than those on **one-year** (19.3%) and **two-year contracts** (11.27%). It indicates that customers on longer-term contracts are less likely to churn, likely due to commitments or incentives.

4.Churn Rate by Tenure:

- The **churn rate is highest for customers with shorter tenures** (less than 10 months), reaching nearly 60%. This suggests that customers who are new to the service are more likely to leave, possibly due to unmet expectations or onboarding issues.
- The churn rate gradually decreases as tenure increases, indicating that long-term customers are more satisfied or have fewer reasons to switch.

5.Churn by Monthly Charges:

- There is a noticeable spike in churn rates for customers with higher monthly charges. Specifically, churn peaks in the **$70-$80 range**. This suggests that customers paying more might not perceive enough value for the cost, prompting them to leave.
- The analysis shows that reducing monthly charges or offering additional value for higher-paying customers could help reduce churn.

6.Internet and Phone Services:

- Customers with **Fiber Optic internet** have the highest churn rate (69.4%), while those using **DSL** or **no internet service** have significantly lower churn rates (9.1% and 6.03%, respectively). This indicates potential service quality issues or dissatisfaction with Fiber Optic services.
- In terms of phone services, having a **phone line** does not appear to significantly impact churn, as both groups (with or without phone service) show comparable churn rates.

Recommendations:

1. **Targeted Retention Strategies**:

   o Focus on reducing churn among **month-to-month contract customers** by offering incentives for switching to longer-term contracts.

   o Consider loyalty programs or special offers for **senior citizens** and **new customers** to reduce early churn.

2. **Pricing Adjustments**:

   o Analyse the perceived value among customers with **higher monthly charges** and consider tiered pricing plans or additional benefits to improve retention.

3. **Service Quality Improvements**:

   o Investigate potential issues with **Fiber Optic services**, as customers using this type are significantly more likely to churn. This could involve improving network reliability or customer support.

4. **Personalized Outreach**:

   o For customers without partners or dependents, implement personalized retention campaigns to make them feel more valued, as these segments show higher churn rates.