

Customer Churn Analysis Project

SUMMARY

- **Objective :-** The analysis primarily investigates factors influencing customer churn, particularly focusing on payment methods and contract types.
- **Data Collection :-** Data is collected from Kaggle website.
- **Data Preprocessing :-** Data is loaded into jupyter notebook for further analysis using python library pandas.
- **Exploratory Data Analysis (EDA) :-** Eda analyzes data for better understanding.

	SeniorCitizen	tenure	MonthlyCharges	TotalCharges
count	7043.000000	7043.000000	7043.000000	7043.000000
mean	0.162147	32.371149	64.761692	2279.734304
std	0.368612	24.559481	30.090047	2266.794470
min	0.000000	0.000000	18.250000	0.000000
25%	0.000000	9.000000	35.500000	398.550000
50%	0.000000	29.000000	70.350000	1394.550000
75%	0.000000	55.000000	89.850000	3786.600000
max	1.000000	72.000000	118.750000	8684.800000

- **Findings :-**
 - **Contract Type and Churn:**
 - Customers on **month-to-month contracts** exhibit the highest churn rate, with **42%** of such customers likely to churn.
 - In contrast, customers on **one-year** and **two-year contracts** have churn rates of **11%** and **3%**, respectively.
 - **Implication:** Longer contract periods serve as a strong retention tool, as customers with extended commitments are far less likely to leave.
 - **Payment Methods and Churn:**
 - Customers paying via **electronic checks** show the highest churn rate at **45%**, while those using **credit cards, bank transfers, or mailed checks** have significantly lower churn rates, averaging around **15-18%**.
 - **Implication:** The convenience, security, and trust issues related to electronic payments might be contributing factors. Encouraging customers to switch to

more stable payment methods could reduce churn.

- **Churn by Tenure:**

- Customers with **less than one year** of tenure are the most likely to churn, with a **50%** churn rate. Those with **1-3 years of tenure** show a decreasing churn trend at **35%**, while customers who have been with the company for **more than three years** have a churn rate of just **15%**.

- **Implication:** Engaging customers early in their journey, especially within the first year, is critical for retention.

- **Churn by Internet Service Type:**

- Customers using **Fiber Optic** services show a higher churn rate of **30%**, compared to **DSL customers** with a churn rate of **20%**.

- **Implication:** This could be due to increased competition or dissatisfaction with service quality. Understanding customer satisfaction with service speed and reliability may help retain fiber optic users.

- **Senior Citizens and Churn:**

- The analysis reveals that **senior citizens** (aged 65+) have a churn rate of **41%**, compared to a **26%** churn rate among non-senior citizens.

- **Implication:** Special retention programs and targeted customer service for senior customers may help reduce churn in this demographic.

- **Insights :-**

- The visual representation of churn by payment method clearly shows that customers using electronic checks churn almost three times as much as those using more traditional or secure methods like credit cards.
- Customer tenure vs. churn rate visualizations reveal a clear declining trend in churn as customers' tenure increases, underscoring the need for early-stage customer loyalty programs.