

Time Series Lab6 – Survival Analysis

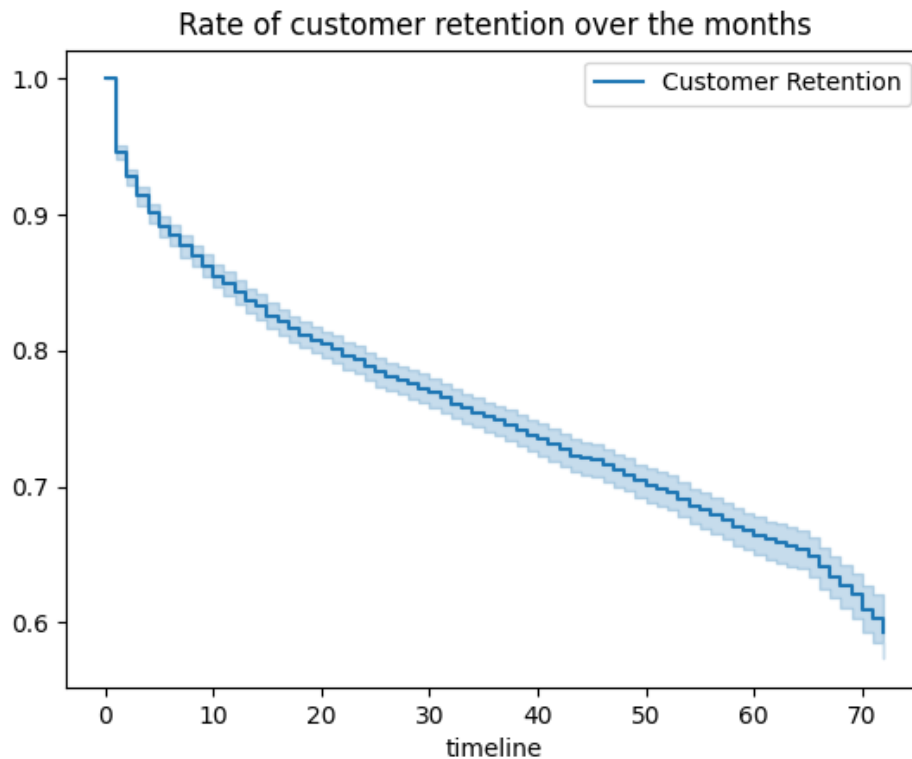
Question 1 – 2

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customerID  gender  SeniorCitizen  ...  MonthlyCharges  TotalCharges  Churn
0  7590-VHVEG  Female           0  ...           29.85           29.85    No
1  5575-GNVDE   Male           0  ...           56.95          1889.5    No
2  3668-QPYBK   Male           0  ...           53.85           108.15   Yes
3  7795-CF0CW   Male           0  ...           42.30          1840.75   No
4  9237-HQITU  Female           0  ...           70.70           151.65   Yes
```

[5 rows x 21 columns]

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SeniorCitizen  tenure  MonthlyCharges
count    7043.000000  7043.000000    7043.000000
mean         0.162147    32.371149     64.761692
std         0.368612    24.559481     30.090047
min         0.000000     0.000000     18.250000
25%         0.000000     9.000000     35.500000
50%         0.000000    29.000000     70.350000
75%         0.000000    55.000000     89.850000
max         1.000000    72.000000    118.750000
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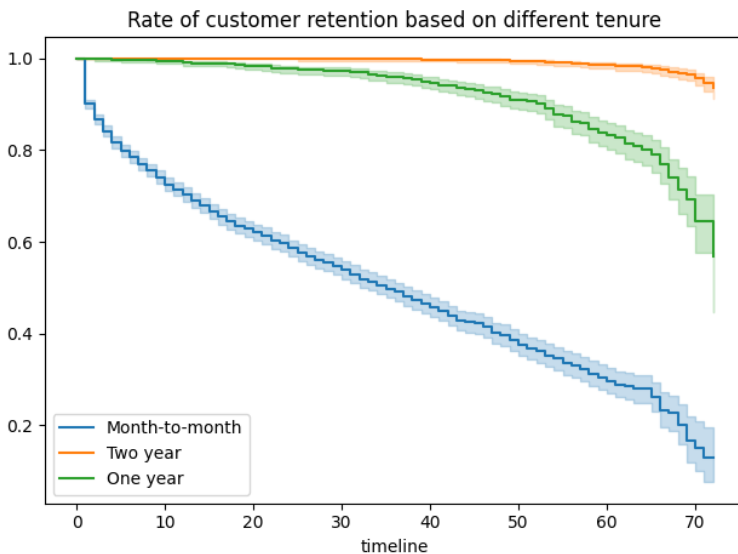
Questions 2 – 8



Question 9

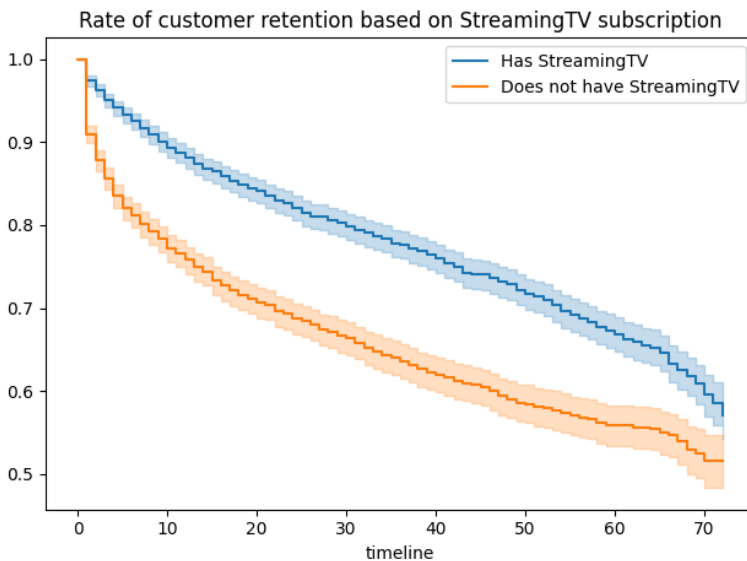
The plot given for the previous question shows the rate of customer retention over the timeline (in months). After 60 months (5 years), almost 30% of the customers have churned out, and approximately 70% of the customers are still in contract. Depending on the business, this rate does not appear abnormal.

Question 10 - 13



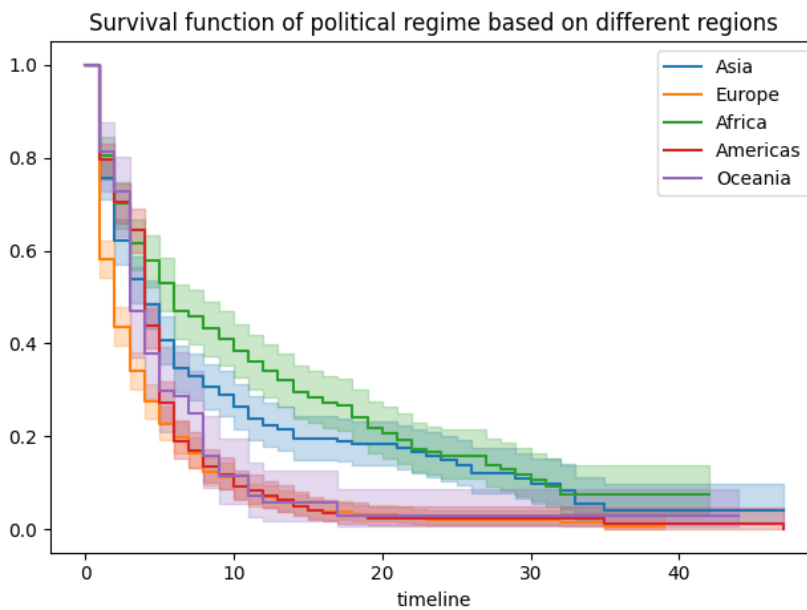
From the above plot, it appears that only those who signed two years contract decided to be in business while the customers with monthly contract have dropped from 100% to less than 20% in ~5.8yrs.

Question 14 – 16

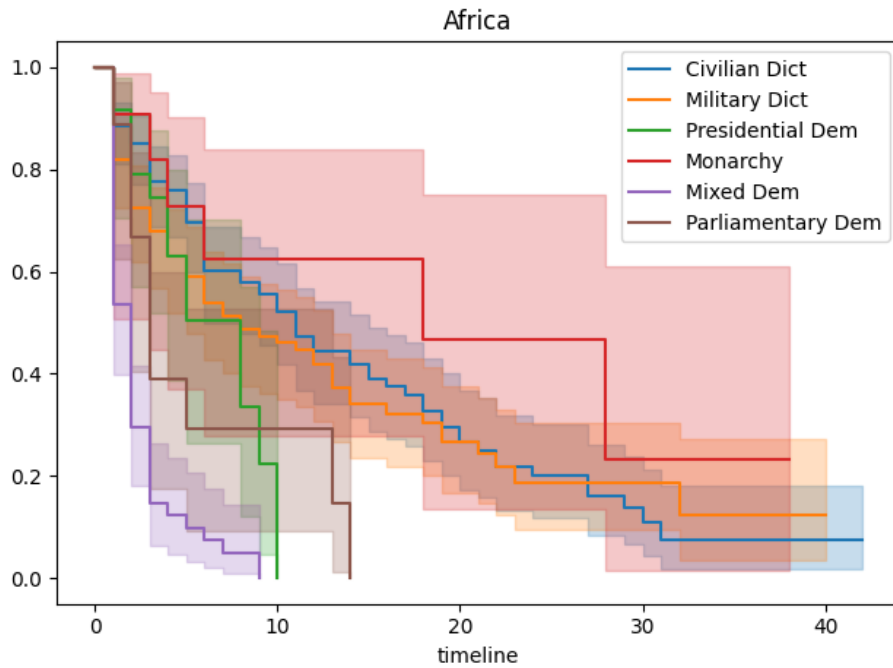


It appears consumers with StreamingTV subscription appear to have higher chances of being in business relative to those who did not subscribe to StreamingTV service.

Question 17 – 18



It appears political regime in the African continent has the higher survival rate compared to other regions. One of the plausible reasons behind this would be the type of government in Africa which is Monarchy.



With Monarchical government, when the person in power is abdicated, the position gets passed on to a different person from the same family. Hence, it stays longer than any other political regime.