Fit.ly Customer Churn Analysis

Data Analyst Professional Practical Exam

DataCamp

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Content

Executive
Overview:

Fit.ly Customer Churn Analysis

"Our goal was to identify factors that predict customer churn and understand which groups are at highest risk"

Business Problem & Goals:

"Customer churn directly impacts recurring revenue and lifetime value."

Data Approach:

DataFrame	Columns
account_info	customer_id, email, state, plan, plan_list_price, churn
customer_support	ticket_time, user_id, channel, topic, resolution_time_hours, state
user_activity	event_time, user_id, event_type

"All insights are grounded in observed data, not assumptions."

Engagement & Support Overview: Classification Type

churn_status	N	Y
plan		
Basic	0.762712	0.237288
Enterprise	0.739130	0.260870
Free	0.590476	0.409524
Pro	0.776471	0.223529

Churn rates are higher among Free plan users, suggesting lower initial commitment. However, behavioral signals such as engagement and support usage provide stronger churn separation than plan type alone.

Churn Rate by Plan Type
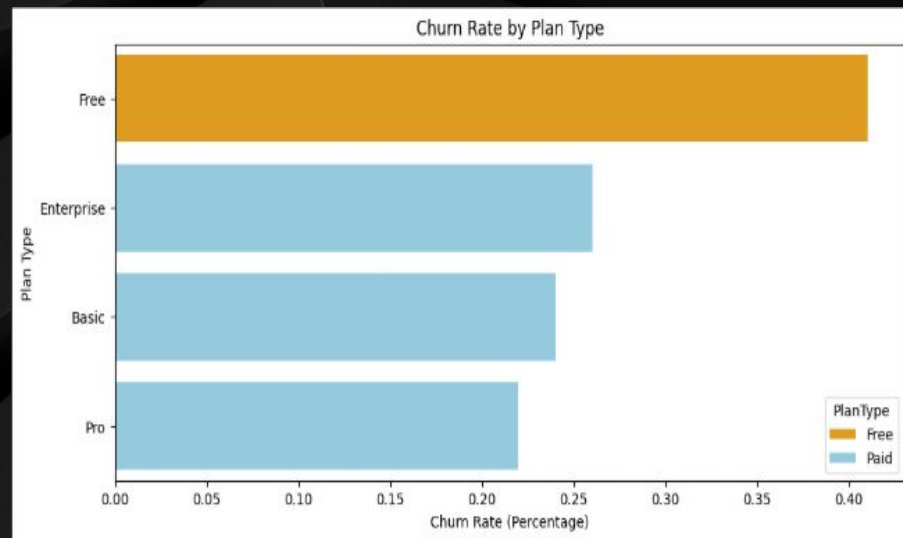
Engagement & Support Overview:
Ticket Counts

```
churn_status
N        2.234266
Y        2.447368
```

Results looks identical due to Mean difference is small in absolute terms

Difference in density and shapes apear quite similar for both groups

 - This suggests that the overall distribution of ticket counts is largely the same for both churned and retained customers.

ticket_count may not be a strong predictor

- The visual similarity of both distributions suggests the variable doesn't highly correlate with churn in this dataset.
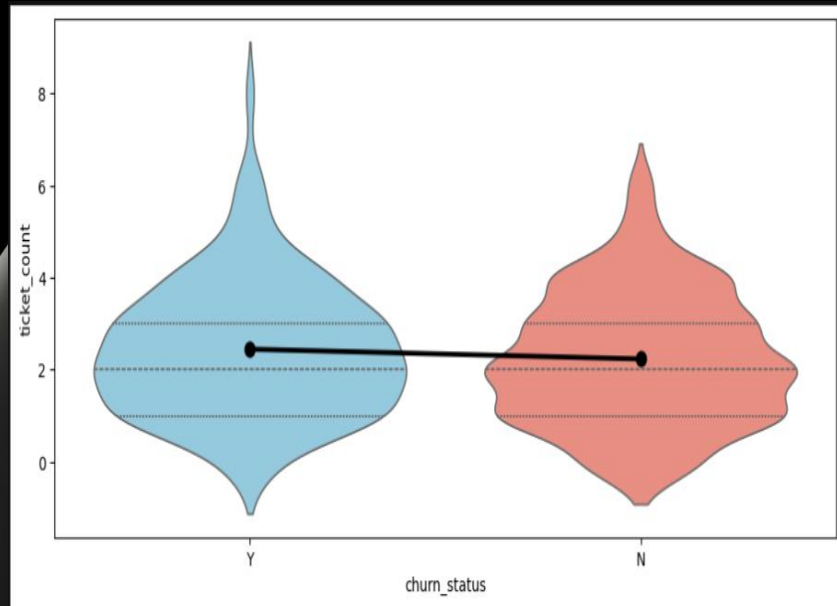
Engagement & Support Overview: Resolution Time

churn_status
N	6.007807
Y	17.867949

the visualizations effectively highlight the significant difference in avg support resolution times between customers groups(Y, N)

- it is shown here that churned customers are quite larger in terms of values when it comes to resolution time

- the mean value of churned customers are too massive that the highest value of retained customers wouldn't reach it

Support Resolution Time by Churn Status
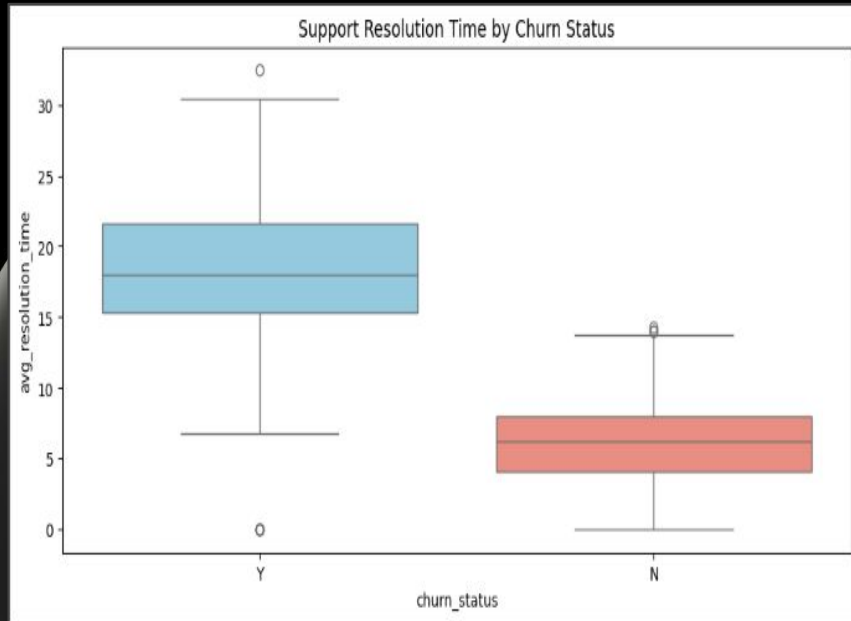
Churn-Related Behavioral Insights

```
churn_status                       N    Y   All  Churn Rate (%)
low_engagement high_support
False          False              71    5    76             6.6
               True               56    2    58             3.4
True           False             102   58   160            36.2
               True               57   49   106            46.2
All                              286  114   400            28.5
```

```
Chi-square statistic: 56.85
P-value: 0.0000
```


Churn Rate by Engagement and Support Activity
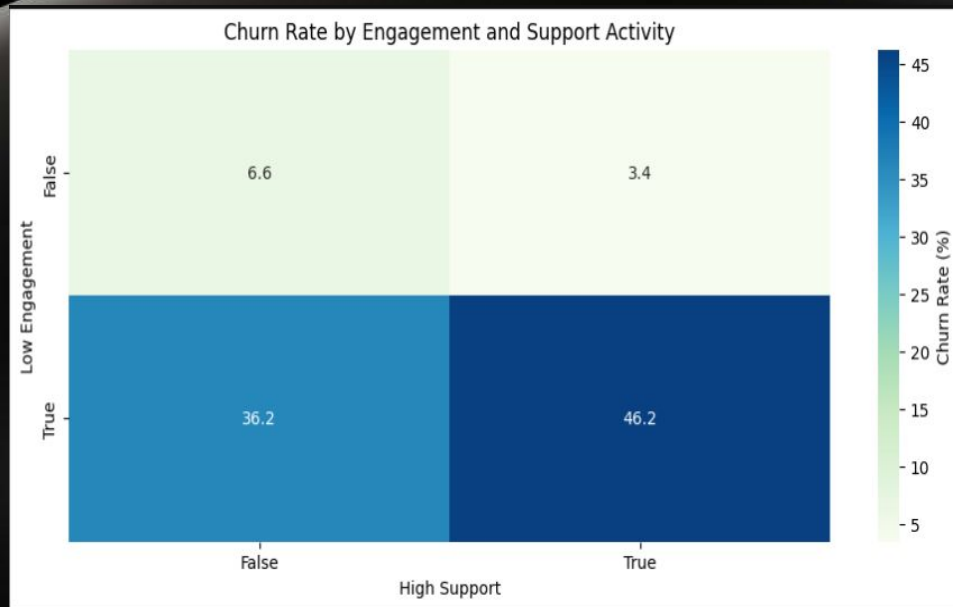
Fit.ly Customer Churn Analysis

Metric to Monitor

Early Engagement Rate = % of new customers who perform more than 1 activity event within their initial usage period.

Initial baseline value: Median event_count ≈ 2 - 25% of users have only 1 event

Baseline estimate: 75% of users reach more than 1 event - Early Engagement Rate ≈ 75%

Key Findings Summary

"Low engagement is the strongest signal associated with churn."

Business Recommendations

1: Prioritize Early Engagement Activation

2: Escalate Support Resolution for Low-Engagement Users & Long resulution time

Thank you