codecademy

CodeFlix Churn Rate

Q1 2017

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Section 1:

About CodeFlix

1.1 About CodeFlix

CodeFlix is a video streaming startup that opened its door a few months ago.

- Video streaming subscriptions started four months ago, with initial subscription start as of December 1, 2016 (example 1).
- Over the four months, there are 2000 unique users (example 2).
- There are currently two user segments; 87 and 30 (example 3).
- CodeFlix is currently saving ID, subscription start, subscription end, and segment (example 4) in the subscription table.

```
-- (1)
Select min(subscription_start),max(subscription_start)
From subscriptions;;

--(2)
Select Count(id)
from subscriptions;

--(3)
select segment
from subscriptions
group by segment;

--(4)
select *
from subscriptions
limit 100;
```

1.2 Churn Rate Defined

Churn Rate is the percentage of subscribers to a service who discontinue their subscriptions to that servcie within a given time period.

- Churn Rate = Cancellations during time period / total subscribers at start of period.
- CodeFlix requires a minimum subscription length of 31 days.
- With the initial users subscribing December 1, 2016 and the most recent month being March 2017, we can calculate Churn Rate for January 2017 – March 2017. The 31 day minimum length would not allow subscribers to cancel in December 2016.

Section 2:

Q1 2017 Churn Rate

2.1 Q1 2017 Churn Rate

CodeFlix's churn rate has increased each month and currently is at 27.43% for the most recent month.

Month	Churn Rate
January 2017	16.17%
February 2017	18.98%
March 2017	27.43%

```
WITH months AS (SELECT    '2017-01-01' as first_day,
  '2017-01-31' as last_day
UNION
SELECT '2017-02-01' as first_day, '2017-02-28' as last_day
UNION
SELECT '2017-03-01' as first_day, '2017-03-31' as last_day
), Cross_Join AS (
Select *
From subscriptions
Cross Join months),

status As (Select id, first_day as month,
Case when ( subscription_start < first_day )
And (subscription_end > first_day OR subscription_end is Null)
 Then 1
 Else 0
 End as is_active,
 Case When (subscription_end Between first_day and last_day )
 Then 1
 Else 0
 End as is_canceled
from cross_join),

status_aggregate As
(select month,Sum(is_active) As sum_active,
sum(is_canceled) As sum_canceled
from status
group by month)

SELECT month,  1.0 * sum_canceled / sum_active as churn_rate
FROM status_aggregate

;
```

Section 3:

Churn Rate by Segment

3.1 Churn Rate by Segment

CodeFlix has two subscription segments; 30 and 87.

- Segment 30's churn rate dropped in February which could be explained by business days, but increased in March
- Segment 87's churn rate is well above segment 30 and has increased steadily each month.

Month	Segment 30 Churn Rate	Segment 87 Churn Rate
January 2017	7.56%	25.18%
February 2017	7.34%	32.03%
March 2017	11.7%	48.59%

```
WITH months AS(SELECT'2017-01-01' as first_day,  '2017-01-31'
as last_day
UNION
SELECT '2017-02-01' as first_day,  '2017-02-28' as last_day
UNION
SELECT '2017-03-01' as first_day,  '2017-03-31' as last_day
), Cross_Join AS (
Select *
From subscriptions
Cross Join months),

status As
(Select id, first_day as month, Case when (segment = 87)
And ( subscription_start < first_day )
And (subscription_end > first_day OR subscription_end is Null)
 Then 1 Else 0 End as is_active_87,Case when (segment = 30)
And ( subscription_start < first_day )
 And (subscription_end > first_day OR subscription_end is Null)
 Then 1 Else 0 End as is_active_30,
 Case When (segment =87)
 And (subscription_end Between first_day and last_day )
 Then 1 Else 0 End as is_canceled_87,
 Case When (segment =30) And (subscription_end Between
first_day and last_day ) Then 1 Else 0 End as is_canceled_30
from cross_join),

status_aggregate As (select month,Sum(is_active_87) As
sum_active_87,sum(is_active_30) As
sum_active_30,sum(is_canceled_87) As
sum_canceled_87,sum(is_canceled_30) As sum_canceled_30
from status
group by month)

SELECT month, 1.0 * sum_canceled_87 / sum_active_87 as
churn_rate_87, 1.0 * sum_canceled_30 / sum_active_30 as
churn_rate_30
FROM status_aggregate;
```

Section 4:

Recommendations

4.1 Recommendations

CodeFlix's churn rate has increased each month with the most recent month having an increase of 70% when compared to January 2017.

- Each segment contains 1000 subscriptions.
- Focus growth in segment 30 as the churn rate is significantly lower when compared to segment 87.
- If looking at segment 87, subscription counts has been fine, cancellations is the driver of the churn rate being well above segment 30.

```
select segment, count(*)
from subscriptions
group by segment;
```