

Churn Rate | Capstone

Learn SQL from Scratch – Code Academy

July 5, 2018

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Example Table of Contents

Project Codeflix Scope	3
Codeflix user recommendation	4
Getting familiar – historical periods & data	6
Getting familiar – user segments	7
Getting familiar – range of months	8
Overall churn rate trended	10
Churn rates – user segments	11
Exhibit 1 – Active & Canceled subscriptions	12
Exhibit 2 - New user growth rates	13

Project Codeflix Scope

Codeflix, a streaming video startup is interested in measuring its user churn rate. I plan to use SQL to help the company do just that.

Before addressing the churn rate, I will need to get familiar with the company. I will identify the company's historical reporting periods and user segmentation. Once I have a better understanding of Codeflix, I will help management identify and visualize the company's churn rate.

This deliverable will not only provide insight for historical periods, but will identify metrics that can be used in real time to make informed decisions.

Codeflix user recommendation

After analyzing the structured data set put together by the marketing team, I strongly recommend that Codeflix focus its resources on Segment 30 users.

As of March 2017, Segment 30 not only has more active subscribers but also a lower churn rate and a higher new user growth in comparison to Segment 87.

The following findings further support my recommendation. If management is willing provide further data to analyze, I am glad to work with you all to further identify useful metrics from the fourth months of collected data.

Please view the additional support in ***Exhibit 1 – Active & Canceled Users & Exhibit 2 – New user growth rate.***

Getting Familiar

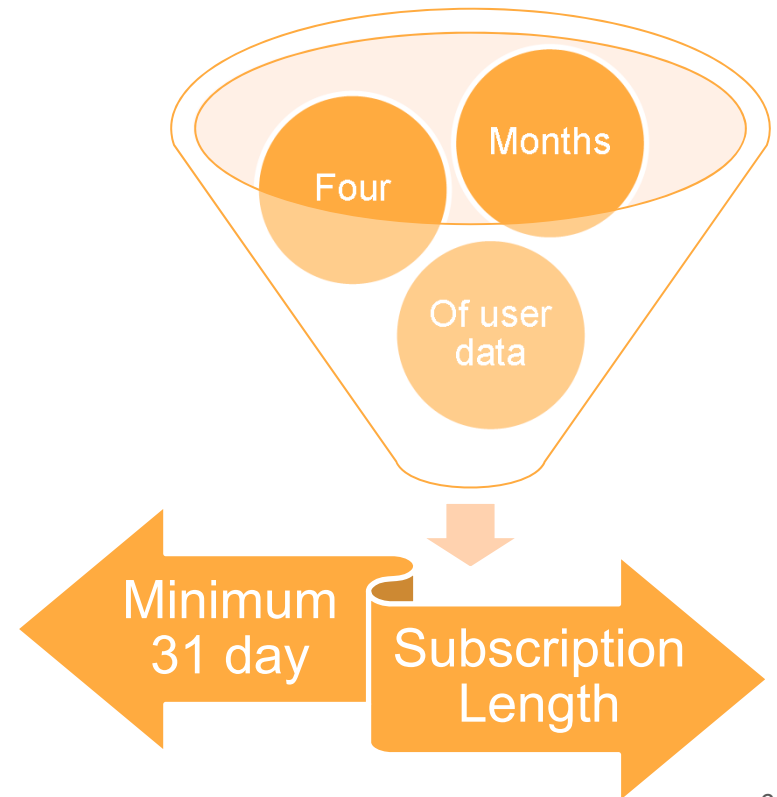
Getting familiar – historical periods & data

Codeflix has disrupted the video streaming industry for four months.

The marketing department has provided data that includes subscription data for users acquired through two distinct channels.

The company has a 31 day minimum subscription length.

This is great insight from the marketing team. It will help me properly structure the data tables and identify the correct churn rates. Let's get started!



Getting familiar – user segments

I took a look at the first 100 rows of data to get a better understanding. Seems that there are four columns:

1. id – subscription id,
2. subscription_start – start date of the subscription,
3. subscription_end – the end date of the subscription, and
4. segment – which identified which segment the subscription owner belongs to

I ran a second line of code to identify ‘Unique Segments’ seems that Codeflix is only capturing data from two segments :

- 30 & 87

```
1  --#1 take a look at the first 100 rows of data in
   the subscription table. identify the different
   segments
2  SELECT * FROM subscriptions
3  LIMIT 100;
```

id	subscription_start	subscription_end	segment
1	2016-12-01	2017-02-01	87
2	2016-12-01	2017-01-24	87
3	2016-12-01	2017-03-07	87
4	2016-12-01	2017-02-12	87
5	2016-12-01	2017-03-09	87

```
5  SELECT DISTINCT segment as 'Unique Segments'
6  FROM subscriptions;
7  -- two segments identified 30 & 87
```

Unique Segments
87
30

Getting familiar – range of months

I have collected great insight at this point. I know that are four historical periods, four columns in the data table, and two user segments. Next task is to identify the range of months of data provided.

This will determine the months we are able to calculate churn for.

This line of code helped me determine that we will only be able to calculate churn rates for January, February, and March 2017.

It will be best to create a temporary table of months to help with the churn rate calculations.

```
9  --#2 determine the range of months of data
   provided
10  SELECT *
11  FROM subscriptions
12  WHERE subscription_end is NOT NULL;
13  -- seems that the churn rates will only include
   Jan., Feb., and Mar. of 2017
```

id	subscription_start	subscription_end	segment
1	2016-12-01	2017-02-01	87
2	2016-12-01	2017-01-24	87
3	2016-12-01	2017-03-07	87
4	2016-12-01	2017-02-12	87
5	2016-12-01	2017-03-09	87

Churn Rate

Overall churn rate trended

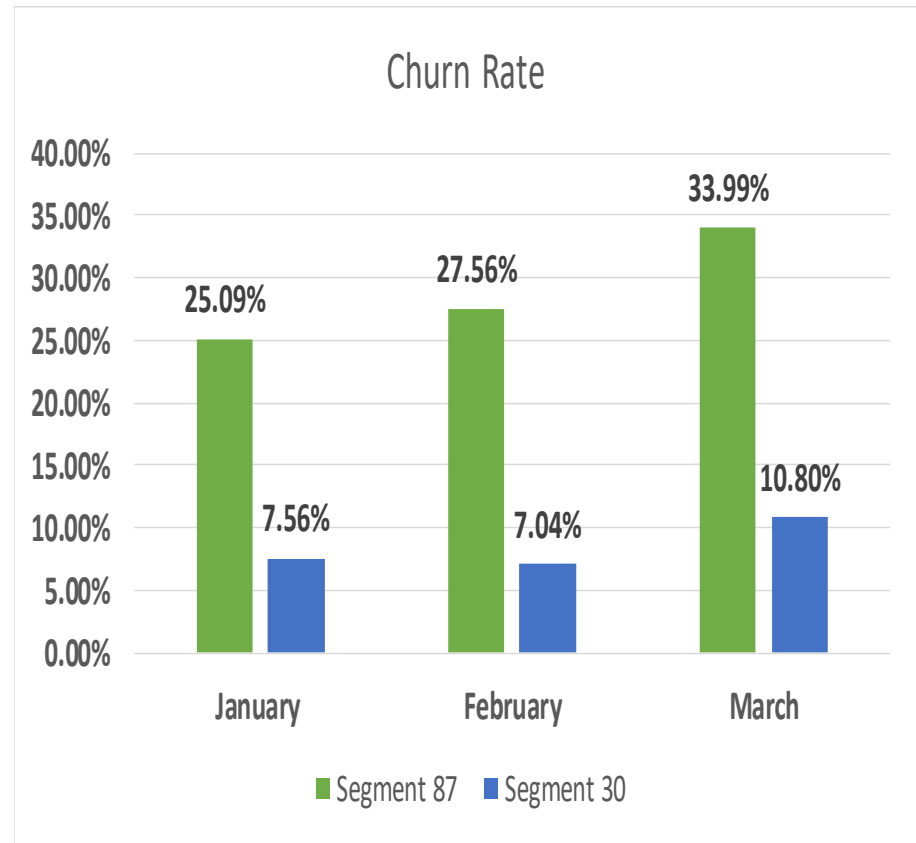
My analysis raised a few red flags for user segment 87. It seems that the user segment 87 churn rate is approximately three times the churn rate for user segment 30.

Since January the company has churned 144 users and 476 users from user segment 30 and user segment 87, respectively.

Management may be interested in considering users' feedback to gain insight on the slight decrease in the churn rate for user segment 30 from January 7.56% to February 7.04%.

Other than that one time decrease in February for user segment 30, the churn rates have increased per month.

Please see ***Exhibit 1 – Active and Canceled Subscriptions*** for additional support.



Churn rates – user segments

There is a higher churn percentage in user segment 87.

Management should note that even though there is a higher churn rate for segment 87, segment 30 churn rate is growing at a more exponential rate. From February to March segment 87 churn rate increased 23.33% while segment 30 increased 53.41%.

I recommend management focus their time and resources on expanding the users in segment 30 since there is a lower churn percentage.

As of March, management should note that the period over period churn percentage increase is higher for segment 30 users as mentioned above. I recommend management flag and monitor the period over period churn percentages and try to draw additional insight from the fluctuations.

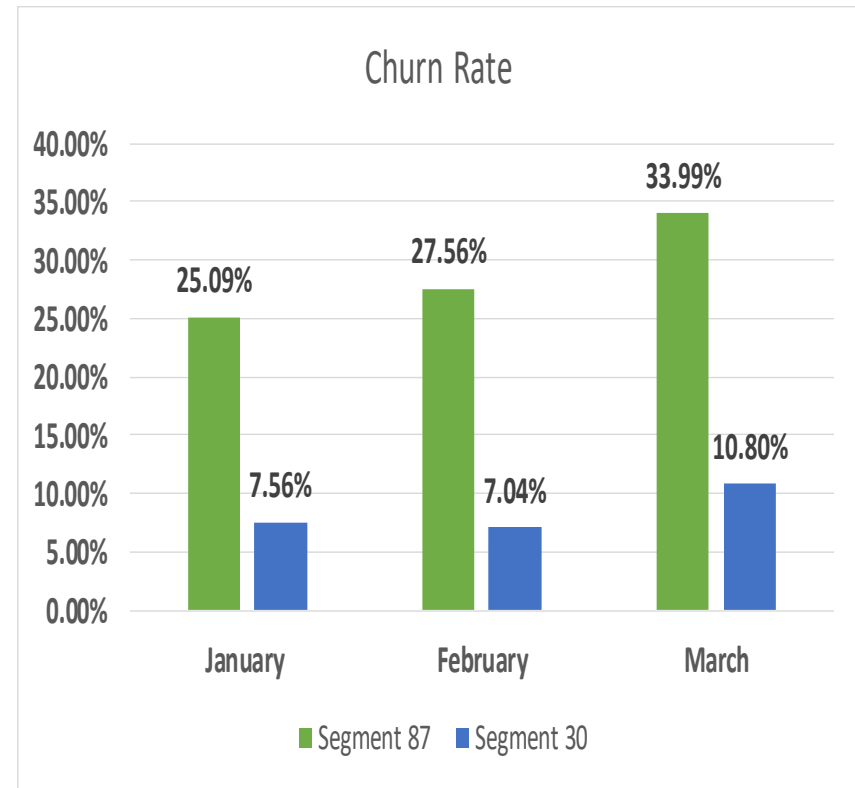


Exhibit 1 – Active and Canceled Subscriptions

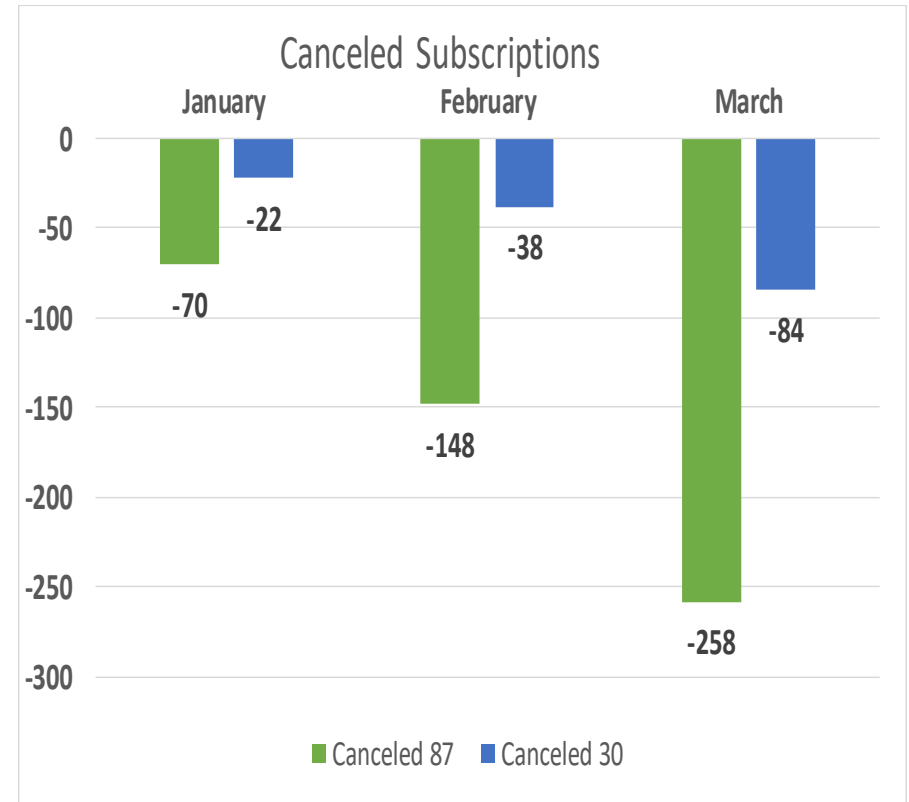
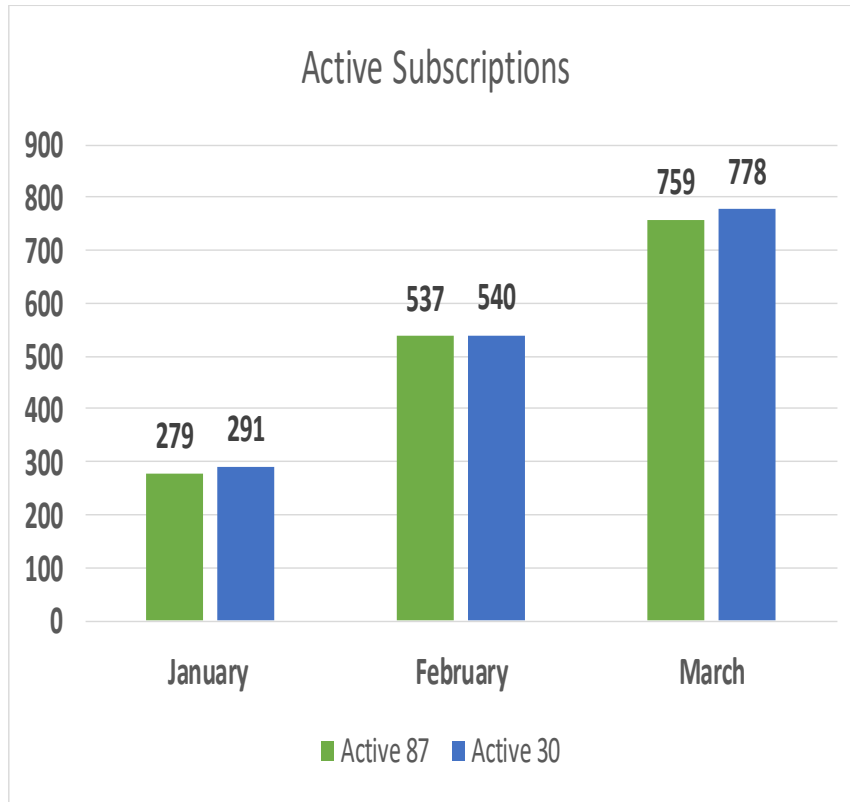


Exhibit 2 – New user growth rate

Churn rate is determined by the percentage of Codeflix users that have canceled within a month. In order for Codeflix's user base to grow the churn rate must be less than the new user rate for the same period.

Examining Codeflix's data using temporary monthly data tables and identifying the unique segments I determined that the company segment 30 user base is still growing at a healthy rate.

Churn rates for March for segment 87 and segment 30 are 33.99% and 10.80%, their new user growth rates are 41.34% and 44.07%, respectively.

Netting the two amounts the new user growth rate for segment 87 is only 7.35% and segment 30 is 33.28%. Management has a stronger probability of successfully expanding the segment 30 user base.

