Sprout Social Executive Summary

Sales Operations Data Analyst Interview

By Matthew Smith

Topic Statement

This executive summary recaps the findings of our exploratory analysis regarding user engagement during the period of 4/1/2017 - 4/30/2017

Findings & Suggestions

User login activity shows cyclical patterns with higher usage during the week and lower usage on the weekends.

Overall use (measured by login count) is trending upward.

Further analysis could be done to identify features of power users. Potentially useful data features include:

- Client Industry
- Segment

Data Wrangling

Dataset comprised of three tables:
    customer_logins
    customer_table
    login_history

Queries were written using SQLite

Visualization & analysis completed in Jupyter Notebook

Key steps taken:

- customer_table field customer_id is a foreign key on the customer_logins table
- Dropped ~five records related to customer_id table that were not found in primary key (customer_table)

Part 1 - Question #1: How many users have never logged in? What percentage of total users is this?

Background Information:

- There are 1,127 unique users (user_logins) in the dataset
- Of these, 1,024 have logged in

Answer:

- **103 users which is equal to 9.14% of total users**

Part 2 - Question #2: How many customers do these users belong to? What percentage of customers is this?

Background Information:

- There are 783 unique customers (customer_id) in the dataset
- Of these, 67 customers have at least one user that has not logged in

Answer:

- **67 customers which is equal to 8.56% of total users**

Query Results: Before & After Dropping Records

Calculated before dropping records:

cnt_users_never_logged_in	pct_users_never_logged_in	cnt_customers_w_users_never_logged_in	pct_customers_w_users_never_logged_in
104	9.19%	68	8.64%

Correct calculation after dropping records:

cnt_users_never_logged_in	pct_users_never_logged_in	cnt_customers_w_users_never_logged_in	pct_customers_w_users_never_logged_in
103	9.14%	67	8.56%

Part 2 - Question #1: What is our daily login rate (% of customers logging in)? How does this vary by day of the week?

- Average Daily Login Rate over the entire period: **29.99%**

- Daily login rate across all customers averages around:
  40% on weekdays
  10% on weekends

Percentage of customers logging in by day of week
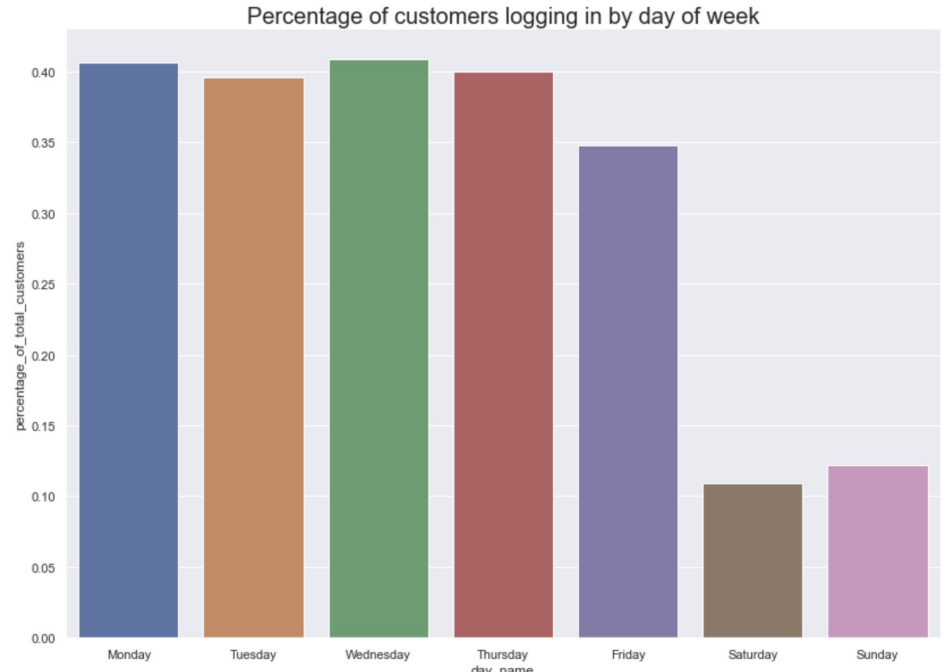
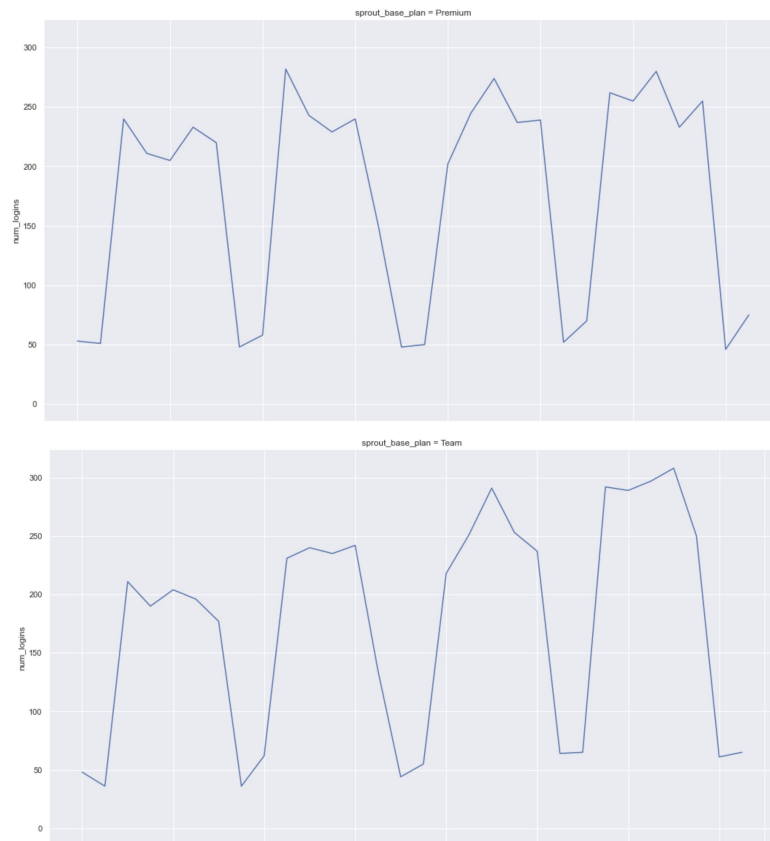# Part 2 - Question #2A: How does total logins vary over time?

- Aggregate login activity over the term (April 2017) exhibits weekly seasonality and an upward average trend

- Activity by plan type clusters into three groups (detailed on subsequent slides)

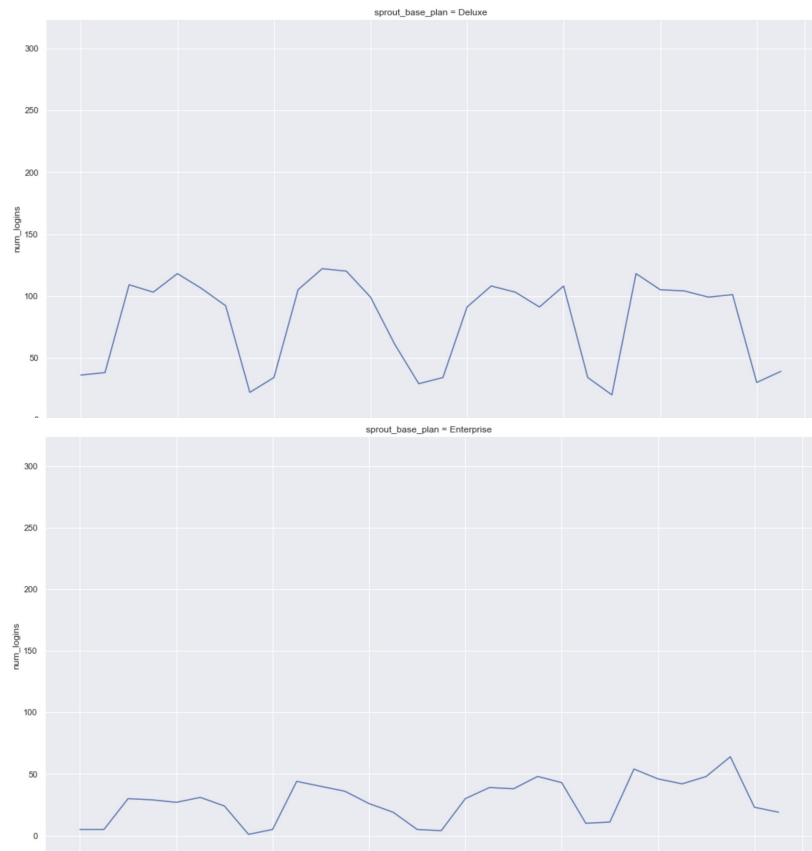Aggregate Login Activity Over Term
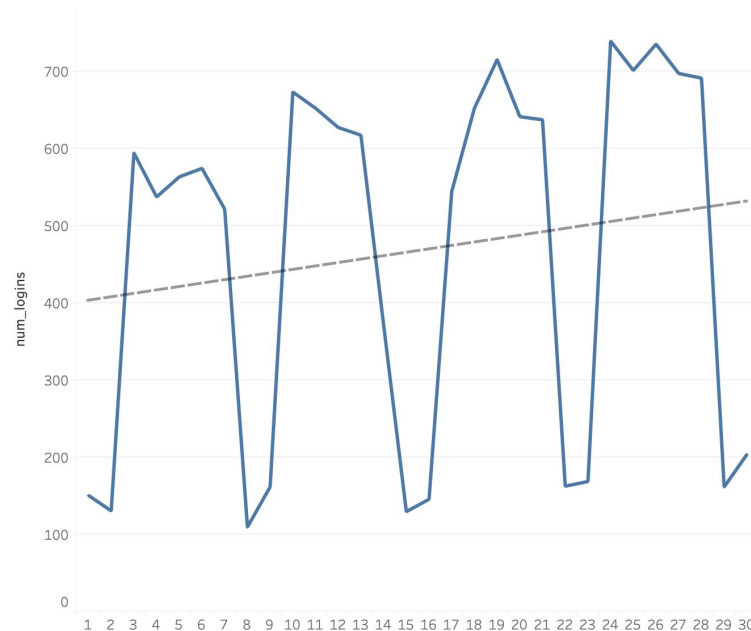
Part 2 - Question #2B: How do total logins vary by plan type (sprout_base_plan)?

- High login volume users have the <u>premium & team plans</u>
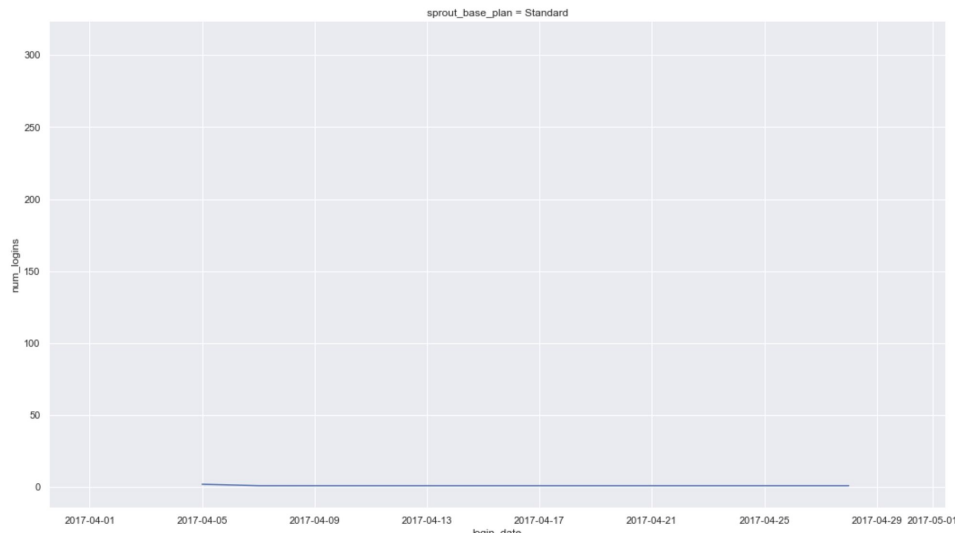
- Seasonality is still present

Part 2 - Question #2B: How do total logins vary by plan type (sprout_base_plan)?

- Medium login volume users have the deluxe & enterprise plans
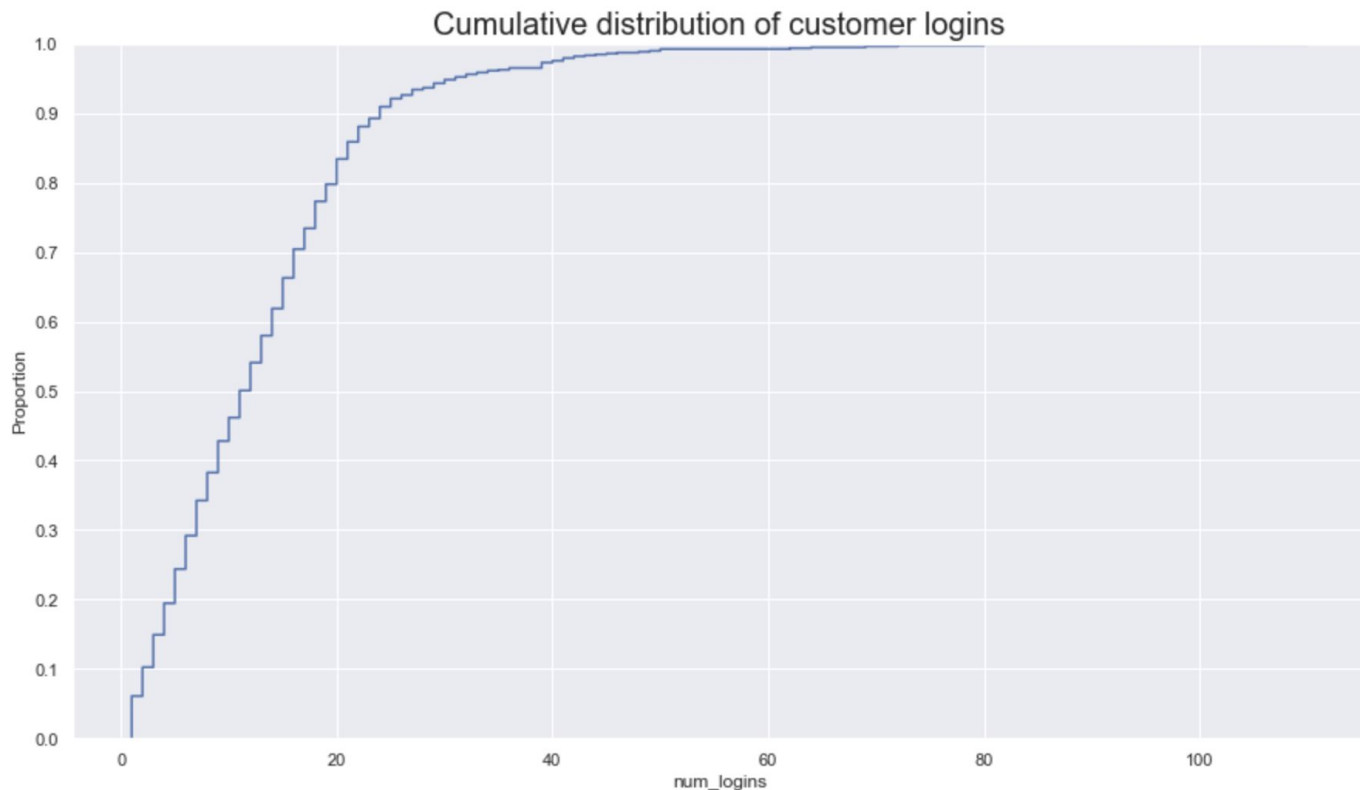
- Seasonality is still present

Part 2 - Question #2B: How do total logins vary by plan type (sprout_base_plan)?

- Low login volume users have the standard plan

sprout_base_plan = Standard

Part 2 - Question #3A: What is the cumulative distribution of total logins by customer?

Cumulative distribution of customer logins

Part 2 - Question #3A: Approximately how many customers account for 90% of all logins?

- The 90th percentile of logins is comprised of all customers with 24 or less logins during the period

- The number of customers that fit this criteria is: **701**

Total number of logins by customer
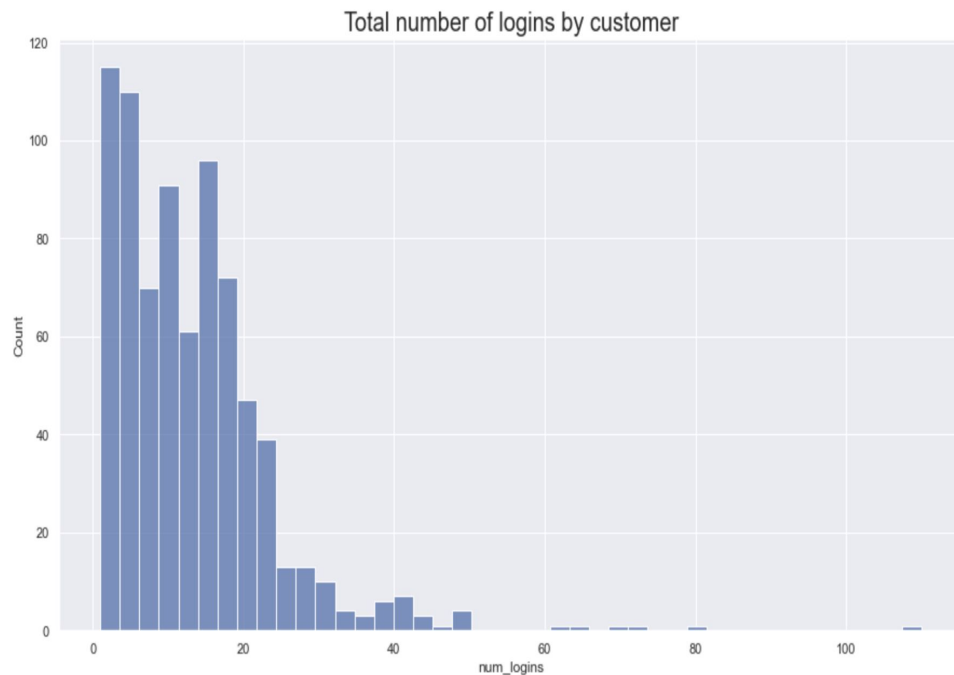
Questions & Answers

Link to Github for supporting documents
- Txt File for SQLite Query
- Jupyter Notebook