

# Yammer Case Study

Solution to the Yammer Case study, part of Springboard

**Problem:** You show up to work Tuesday morning, September 2, 2014. The head of the Product team walks over to your desk and asks you what you think about the latest activity on the user engagement dashboards. You fire them up, and something immediately jumps out- The number of weekly active users has declined by almost a third over the past month.

The reasons for a decline in user engagement can be organized into two categories:

## 1. External Factors

- Users are on vacation during the summer months, especially August
- Economic cyclical event affecting whole industry (Economic crisis or recession)
- Customers are switching from Yammer to a competitor

## 2. Internal Factors

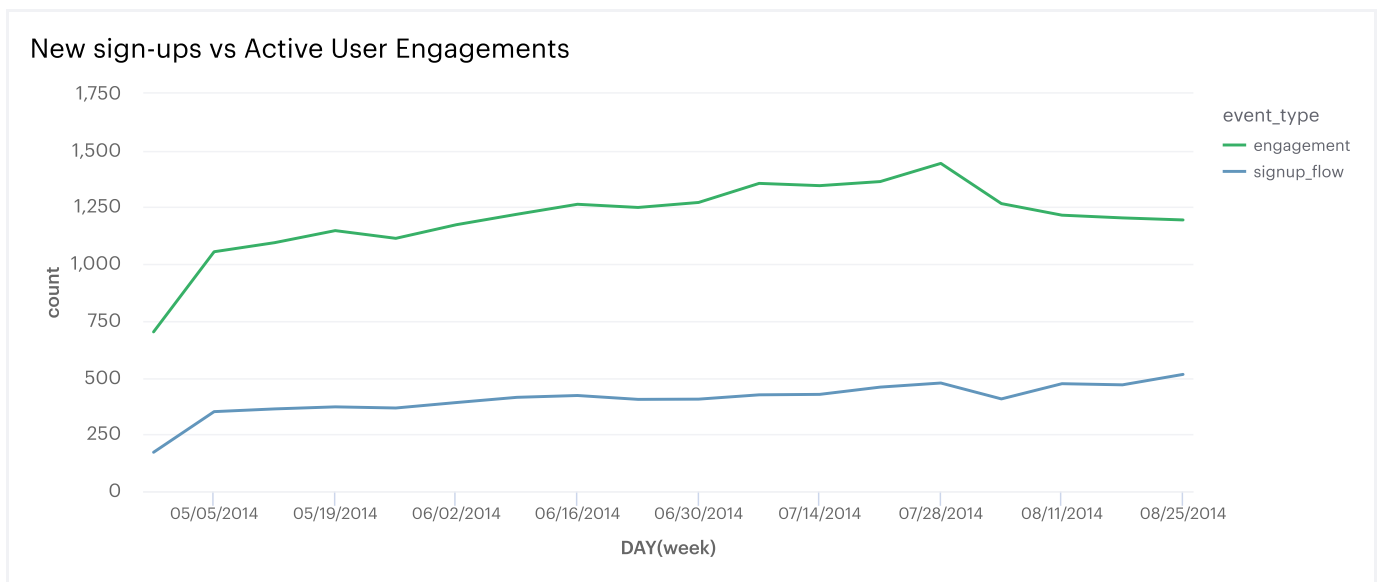
- A product or feature is broken
- There is a connection issue preventing users from accessing Yammer
- Data collection issue -- Users are engaging on Yammer normally, but events not being logged

Without bringing in any external data on the economy or vacation seasons, I can get a gauge of if there's an external issue by comparing active user engagements to new signups. If signups are down, that might indicate an issue with a competitor or economic downturn.

### SQL Query:

```
SELECT DATE_TRUNC('week', occurred_at) as WEEK , event_type, count( DISTINCT user_id)
FROM tutorial.yammer_events
GROUP BY WEEK, event_type
```

### Output:



Signups have increased throughout the month of August while engagements were down. This suggests that there isn't an external factor affecting Yammer. Instead, there is probably an issue in accessing the product, recording events, or actual product features.

Next, I'll drill down into engagement by device (desktop, tablet, and mobile).

#### SQL Query:

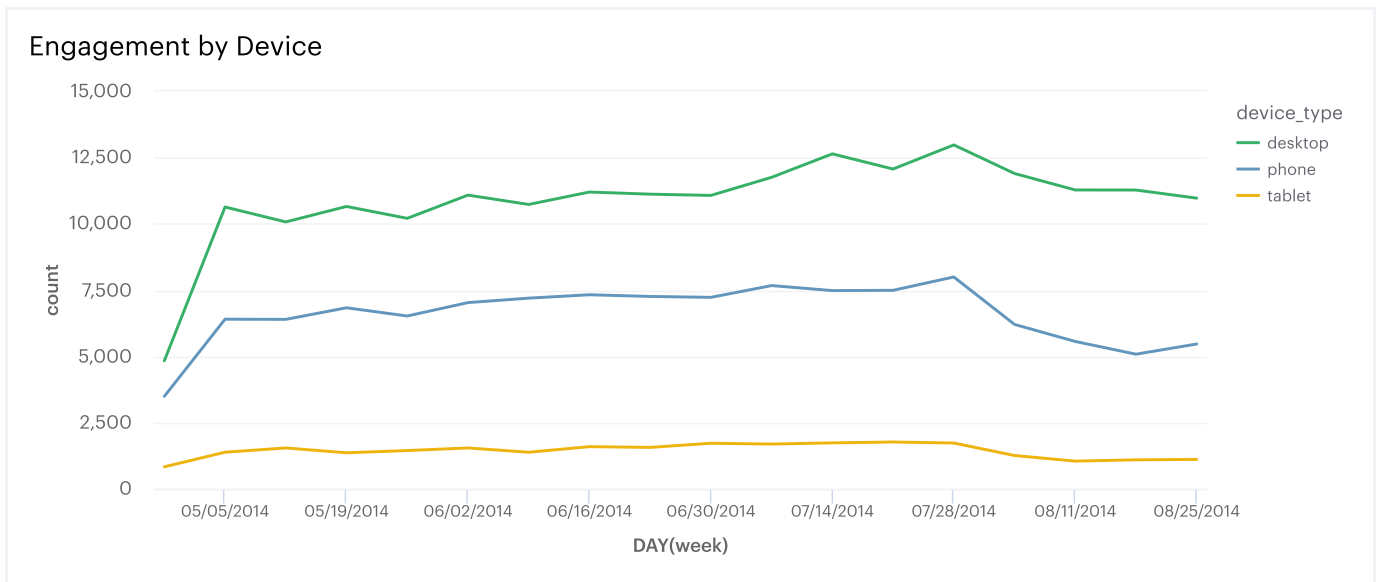
```
SELECT DATE_TRUNC('week',occurred_at) as WEEK,
count(user_id),

CASE --Phones
WHEN device = 'nexus 10' THEN 'phone'
  WHEN device = 'amazon fire phone' THEN 'phone'
  WHEN device = 'iphone 5s' THEN 'phone'
  WHEN device = 'iphone 5' THEN 'phone'
  WHEN device = 'iphone 4s' THEN 'phone'
  WHEN device = 'nokia lumia 635' THEN 'phone'
  WHEN device = 'samsung galaxy note' THEN 'phone'
  WHEN device = 'samsung galaxy s4' THEN 'phone'
  WHEN device = 'nexus 7' THEN 'phone'
  WHEN device = 'nexus 5' THEN 'phone'
  WHEN device = 'nexus 10' THEN 'phone'
  WHEN device = 'htc one' THEN 'phone'

-- Tablets
  WHEN device = 'ipad air' THEN 'tablet'
  WHEN device = 'ipad mini' THEN 'tablet'
  WHEN device = 'windows surface' THEN 'tablet'
  WHEN device = 'kindle fire' THEN 'tablet'
  WHEN device = 'samsung galaxy tablet' THEN 'tablet'
  WHEN device = 'samsumg galaxy tablet' THEN 'tablet'

-- Desktops
  WHEN device = 'macbook air' THEN 'desktop'
  WHEN device = 'acer aspire desktop' THEN 'desktop'
  WHEN device = 'acer aspire notebook' THEN 'desktop'
  WHEN device = 'lenovo thinkpad' THEN 'desktop'
  WHEN device = 'mac mini' THEN 'desktop'
  WHEN device = 'macbook pro' THEN 'desktop'
  WHEN device = 'hp pavilion desktop' THEN 'desktop'
  WHEN device = 'dell inspiron notebook' THEN 'desktop'
  WHEN device = 'dell inspiron desktop' THEN 'desktop'
  WHEN device = 'asus chromebook' THEN 'desktop'
END AS device_type
FROM tutorial.yammer_events
GROUP BY WEEK, device
```

#### Output:



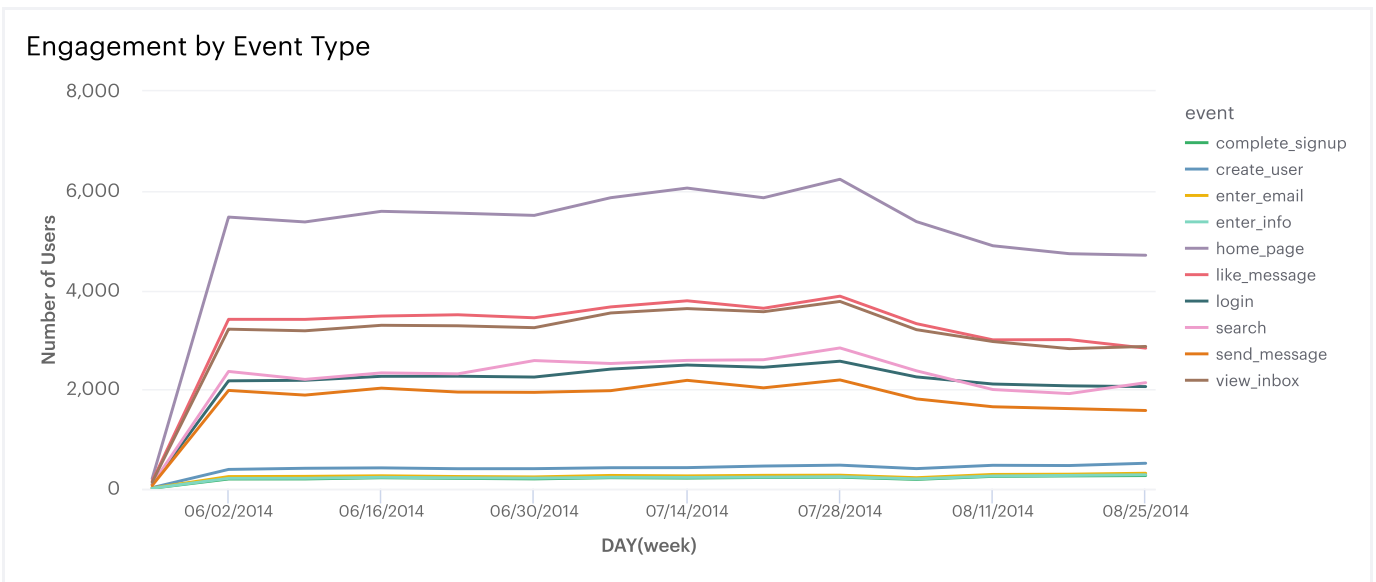
It looks like engagement is down across all devices, but its the most pronounced within the phone category. This suggests an issue with a feature most used on the mobile apps, or a connection issue which affects the mobile app the most.

Lets look at types of events to see if the problem can be narrowed.

#### SQL Query:

```
SELECT DATE_TRUNC('week',occurred_at) as WEEK,
       COUNT(user_id) as "Number of Users",
       CASE WHEN event_name LIKE '%search%' THEN 'search'
            ELSE event_name
       END AS "event"
FROM tutorial.yammer_events
GROUP BY WEEK, event
ORDER BY WEEK, event
```

#### Output:



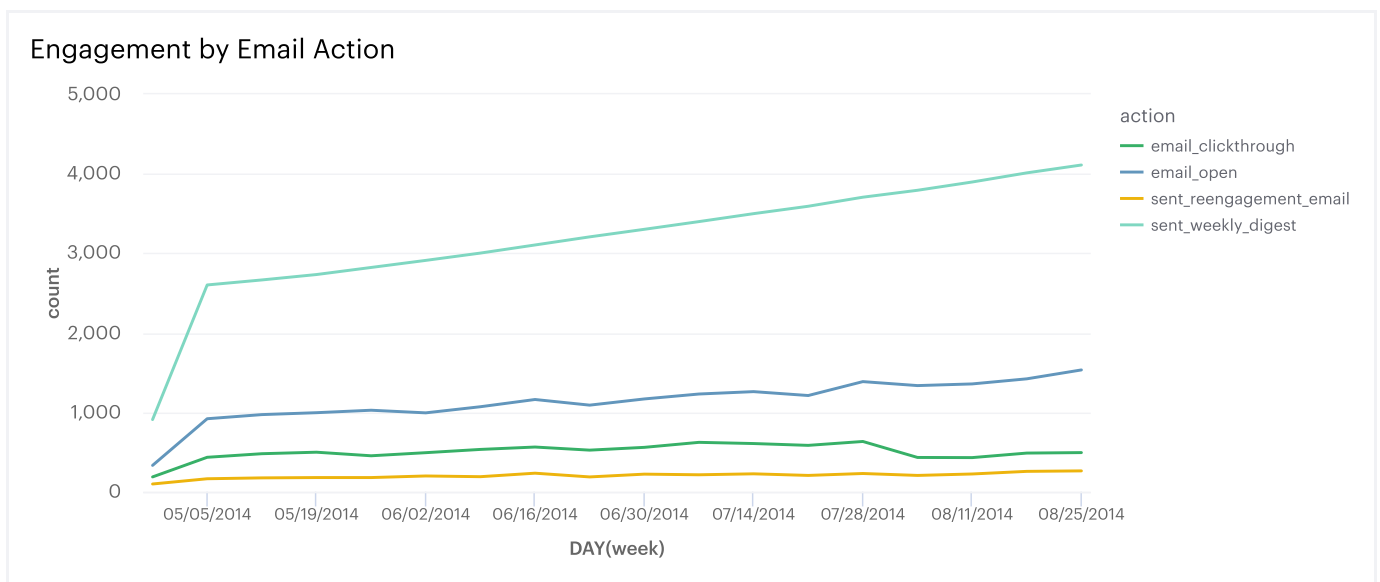
Non-signup related actions are down across the board. Users have decreased the amount of searching, messaging, and liking that they do. Why is this? Are there product malfunctions, or are users simply accessing Yammer less, and why?

I'll next check user engagement through actions in email.

#### SQL Query:

```
SELECT DATE_TRUNC('week', occurred_at) as week, action, Count(user_id)
FROM tutorial.yammer_emails
GROUP BY week, action
ORDER BY week, action
```

#### Output:



It looks like I've found the issue. Email clickthroughs are down since the end of July, but the number of users opening Yammer emails is up. This suggests that there is an issue in the email links directing users to the Yammer homepage. An incorrect link would be most inconvenient for mobile users, as manually pulling up Yammer and logging in is most inconvenient on a tiny smartphone screen. The final step would be to look at the emails that have gone out since July 28, and see if the links are working.

If email links aren't the issue, someone should take a look at the server backend to make sure the internet connection isn't being disrupted and events are being logged properly.