

## Analyze the Dip in User Engagement

Verify the dip in User Engagement with below 2 queries:

Check for Overall engagement results:

```
select DATE_TRUNC('week', occurred_at) as occurred_date, count(*) from benn.yammer_events  
where event_name='login' and event_type='engagement' group by occurred_date order by  
occurred_date desc
```

Check for Overall engagement results with DISTINCT Users:

```
select DATE_TRUNC('week', occurred_at) as occurred_date, count(DISTINCT user_id) from  
benn.yammer_events where event_name='login' and event_type='engagement' group by  
occurred_date order by occurred_date desc
```

It is evident from above queries that the engagement has dipped.

Possible Causes of Dip in Engagement:

1. Possibility of broken feature – Check if there are any cases specific to functionality failure.
2. Holiday Season - Possibility of some country having a Holiday season during this time frame.
3. Impact of recent Tracking changes – check with Application support Team if there were any recent changes to tracking, if yes, explore the changes.

***But Before above three are explored, below are some things that can be checked***

4. Feature broken for some types of devices -

Check The engagement Levels by categorizing the devices in types :

**PHONE:**

```
select dvc_evt.device_type, dvc_evt.occ_at, COUNT(*) from (select (CASE  
WHEN device IN ('iphone 5', 'samsung galaxy s4', 'nexus 5', 'iphone 5s', 'iphone 4s', 'nokia  
lumia 635',  
                'htc one', 'samsung galaxy note', 'amazon fire phone') THEN 'phone'  
WHEN device IN ('ipad air', 'nexus 7', 'ipad mini', 'nexus 10', 'kindle fire', 'windows surface',  
                'samsung galaxy tablet') THEN 'ipad'  
ELSE 'computer'  
END) as device_type, DATE_TRUNC('week', evt.occurred_at) as occ_at from  
tutorial.yammer_events evt where evt.event_type = 'engagement'  
AND evt.event_name = 'login') dvc_evt where dvc_evt.device_type='phone' group by  
device_type, occ_at order by occ_at, device_type asc
```

### **IPAD:**

```
select dvc_evt.device_type,dvc_evt.occ_at , COUNT(*) from (select (CASE
WHEN device IN ('iphone 5','samsung galaxy s4','nexus 5','iphone 5s','iphone 4s','nokia
lumia 635',
      'htc one','samsung galaxy note','amazon fire phone') THEN 'phone'
WHEN device IN ('ipad air','nexus 7','ipad mini','nexus 10','kindle fire','windows surface',
      'samsung galaxy tablet') THEN 'ipad'
ELSE 'computer'
END) as device_type, DATE_TRUNC('week', evt.occurred_at) as occ_at from
tutorial.yammer_events evt where evt.event_type = 'engagement'
AND evt.event_name = 'login') dvc_evt where dvc_evt.device_type='ipad' group by
device_type, occ_at order by occ_at,device_type asc
```

### **COMPUTER:**

```
select dvc_evt.device_type,dvc_evt.occ_at , COUNT(*) from (select (CASE
WHEN device IN ('iphone 5','samsung galaxy s4','nexus 5','iphone 5s','iphone 4s','nokia
lumia 635',
      'htc one','samsung galaxy note','amazon fire phone') THEN 'phone'
WHEN device IN ('ipad air','nexus 7','ipad mini','nexus 10','kindle fire','windows surface',
      'samsung galaxy tablet') THEN 'ipad'
ELSE 'computer'
END) as device_type, DATE_TRUNC('week', evt.occurred_at) as occ_at from
tutorial.yammer_events evt where evt.event_type = 'engagement'
AND evt.event_name = 'login') dvc_evt where dvc_evt.device_type='computer' group by
device_type, occ_at order by occ_at,device_type asc
```

### **CONSOLIDATED QUERY for ALL 3 device types:**

```
SELECT DATE_TRUNC('week', occurred_at) AS week,
      COUNT(DISTINCT e.user_id) AS weekly_active_users,
      COUNT( CASE WHEN e.device IN ('macbook pro','lenovo thinkpad','macbook
air','dell inspiron notebook',
      'asus chromebook','dell inspiron desktop','acer aspire notebook','hp pavilion
desktop','acer aspire desktop','mac mini')
      THEN e.user_id ELSE NULL END) AS computer,
      COUNT( CASE WHEN e.device IN ('iphone 5','samsung galaxy s4','nexus 5','iphone
5s','iphone 4s','nokia lumia 635',
      'htc one','samsung galaxy note','amazon fire phone') THEN e.user_id ELSE NULL
END) AS phone,
```

```

COUNT( CASE WHEN e.device IN ('ipad air','nexus 7','ipad mini','nexus 10','kindle
fire','windows surface',
'samsung galaxy tablet') THEN e.user_id ELSE NULL END) AS tablet
FROM tutorial.yammer_events e
WHERE e.event_type = 'engagement'
AND e.event_name = 'login'
GROUP BY 1
ORDER BY 1
LIMIT 100

```

**The Results show that the Engagement has decreases from Phones, check if there was some feature introduced for phone which has broken recently.**

5. Feature broken for some country users –

Choose top 3 language based user base countries, in this case English, Spanish, French

```

SELECT DATE_TRUNC('week', occurred_at) AS week,
COUNT( CASE WHEN e.location IN ('Australia','United States','United Kingdom')
THEN e.user_id ELSE NULL END) AS english,
COUNT( CASE WHEN e.location IN ('Mexico','Brazil','Spain','Argentina','Chile') THEN
e.user_id ELSE NULL END) AS spanish,
COUNT( CASE WHEN e.location IN ('France','Canada','Belgium') THEN e.user_id ELSE
NULL END) AS French
FROM tutorial.yammer_events e
WHERE e.event_type = 'engagement'
AND e.event_name = 'login'
GROUP BY 1
ORDER BY 1
LIMIT 100

```

**It shows that the engagement has dipped for all the three major language users.**

6. Look for Email Actions -

```
SELECT DATE_TRUNC('week', occurred_at) AS week,  
       COUNT(CASE WHEN e.action = 'sent_weekly_digest' THEN e.user_id ELSE NULL END)  
AS weekly_emails,  
       COUNT(CASE WHEN e.action = 'sent_reengagement_email' THEN e.user_id ELSE  
NULL END) AS reengagement_emails,  
       COUNT(CASE WHEN e.action = 'email_open' THEN e.user_id ELSE NULL END) AS  
email_opens,  
       COUNT(CASE WHEN e.action = 'email_clickthrough' THEN e.user_id ELSE NULL END)  
AS email_clickthroughs  
FROM tutorial.yammer_emails e  
GROUP BY 1  
ORDER BY 1
```

**The above query results suggest the Email Clickthroughs has reduced.**

**In Summary the Problem lies with Phone users and email click throughs.**