**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 occured\_date,count(\*) from benn.yammer\_events where event\_name='login' and event\_type='engagement' group by occured\_date order by occured\_date desc

Check for Overall engagement results with DISTINCT Users:

select DATE\_TRUNC('week', occurred\_at) as occured\_date,count(DISTINCT user\_id) from benn.yammer\_events where event\_name='login' and event\_type='engagement' group by occured\_date order by occured\_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***

1. 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',

'samsumg 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',

'samsumg 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',

'samsumg 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',

'samsumg 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.**

1. 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.**

1. 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.**